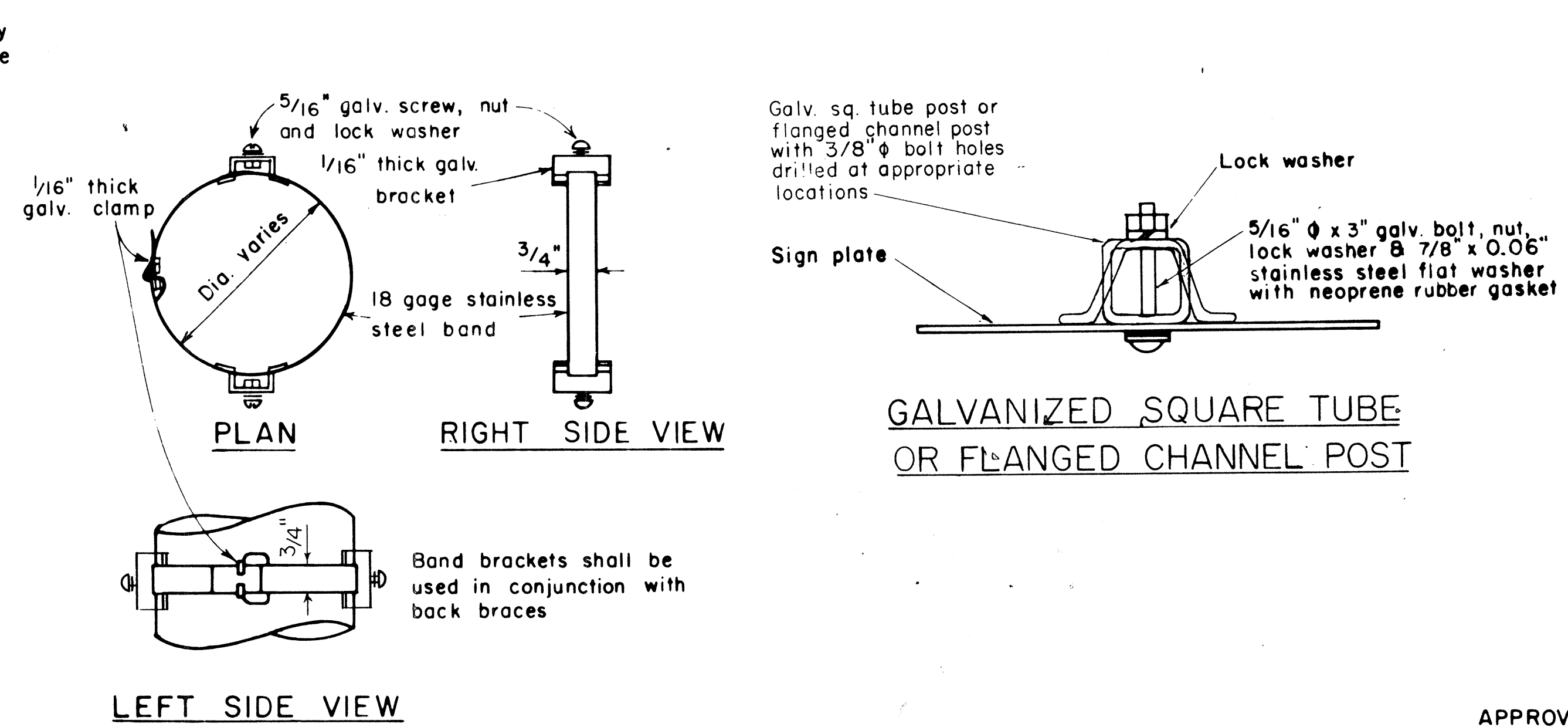
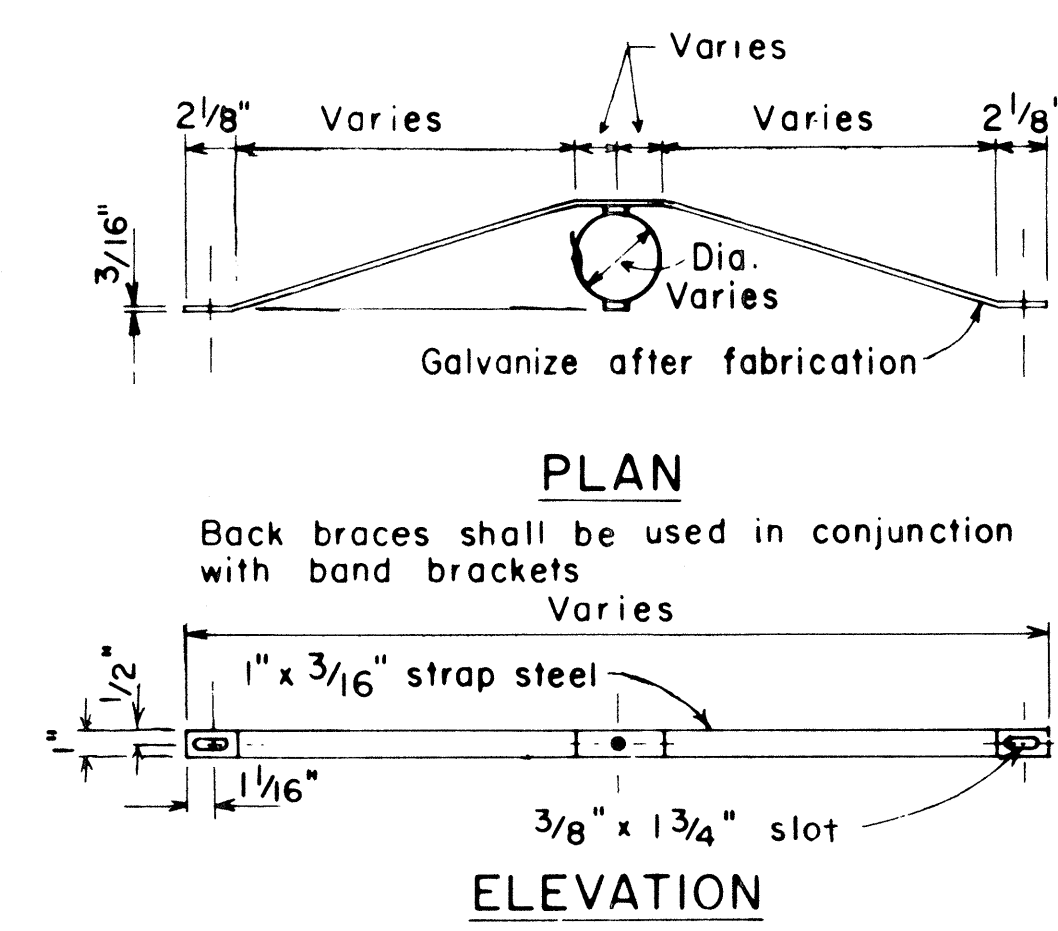


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560-0183M	1983	9	22

GENERAL NOTES

- Signs shall be placed in conformance with positions shown and described in the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1978, Part II, Section 2A-2I, as amended, and as supplemented herein.
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts except as noted below.
- Signs 48" and wider or larger than 10 sq. ft. in area may be mounted on other than two sign posts (i.e. on highway lighting poles) as follows:
 - Signs larger than 10 sq. ft. and less than 28 sq. ft. in area shall be mounted with a minimum of two sets of band brackets and back braces.
 - Signs larger than 28 sq. ft. in area shall be mounted with a minimum of three sets of band brackets and back braces.
- All parking restriction signs with arrows shall be mounted 45° to the line of traffic flow.
- Sign posts shall extend 3 1/2" above each sign, where required, for attachment of City and County street name signs.
- (R) or (L) indicates right or left and shall be shown on the plans.
- See plans for special details of signs along bikeways.
- See plans for special details of signs along bikeways.
- The minimum lateral distances shown are guidelines and shall be exceeded whenever possible. The Contractor shall place signs at the maximum practical lateral distance from the edge of the traveled way up to 30 feet and shall utilize protected locations whenever possible. Final locations of all signs shall be approved by the Engineer.
- Signs in medians shall be placed at midpoint of median up to a maximum distance of 30 feet from the edge of traveled way. When appropriate, signs for opposing directions shall be placed back to back.
- Anchor bases shall be installed for all signpost installations, unless otherwise shown or directed. See sheets DT 100A and DT 100B.

BACK BRACE DETAILS FOR BALANCED SIGN INSTALLATION



BAND BRACKET TYPICAL MOUNTING DETAILS NOT TO SCALE

NO.	REVISION	APPROVED BY	DATE
1	Supercedes Sht. DT-100 approved 12/30/69	H.T.	11/15/11
2	Revised depth of signpost	H.T.	5/8/19
3	Added Notes No. 8 & No. 9	H.T.	5/18/19
4	Revised Gen. Note #4 & Mounting Details	H.T.	4/23/80
5	Revised General Notes, Lateral Sign Locations and Mounting Details	H.T.	5/15/81
6	Added Note 10. Minor revisions to notes and details.	H.T.	7/22/82

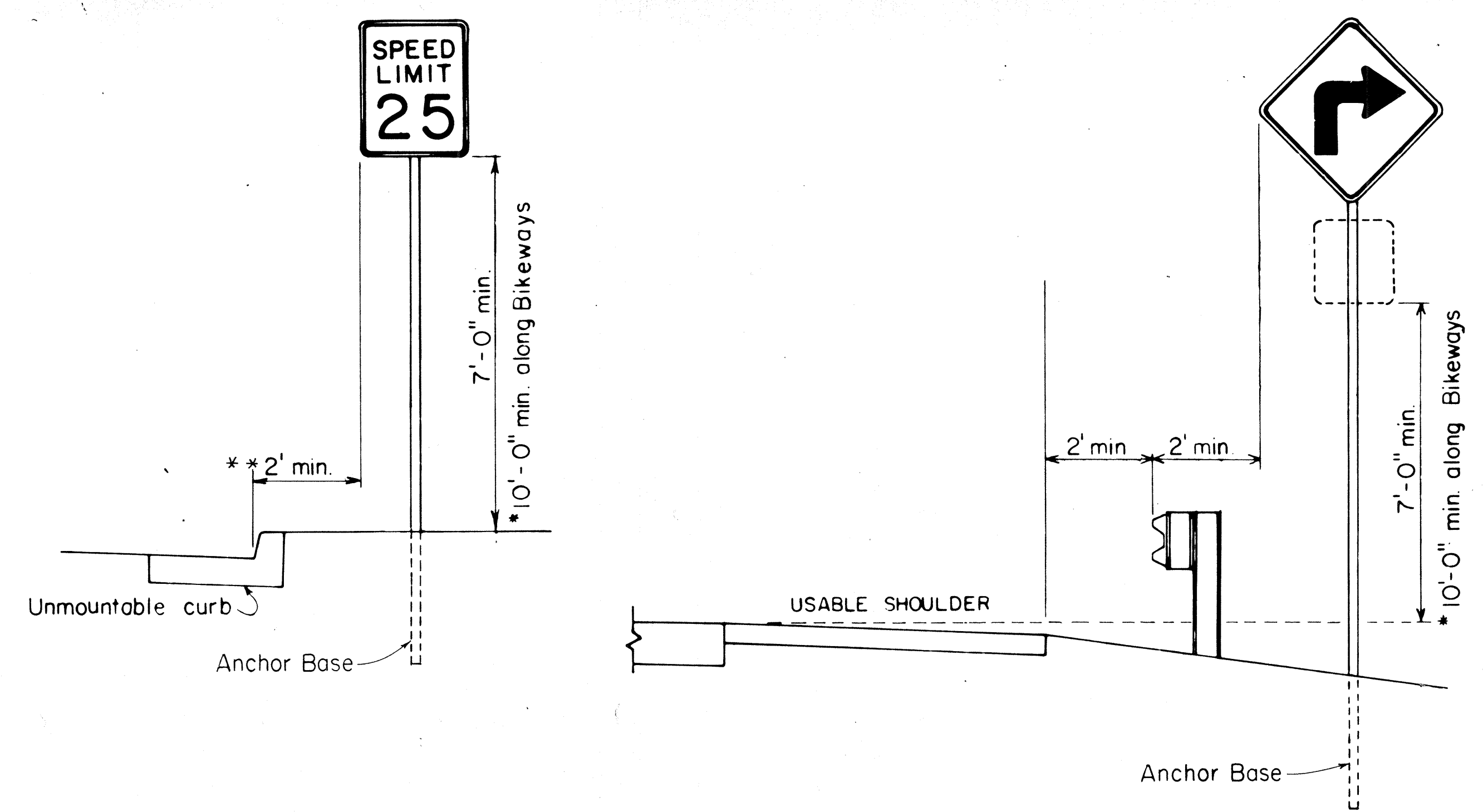
APPROVAL RECOMMENDED:
Eugene Tanaka 11/10/77
 TRAFFIC ENGINEER DATE

APPROVED:
Harold S. Gabeis 11/15/77
 ASSISTANT CHIEF, ENGINEERING DATE

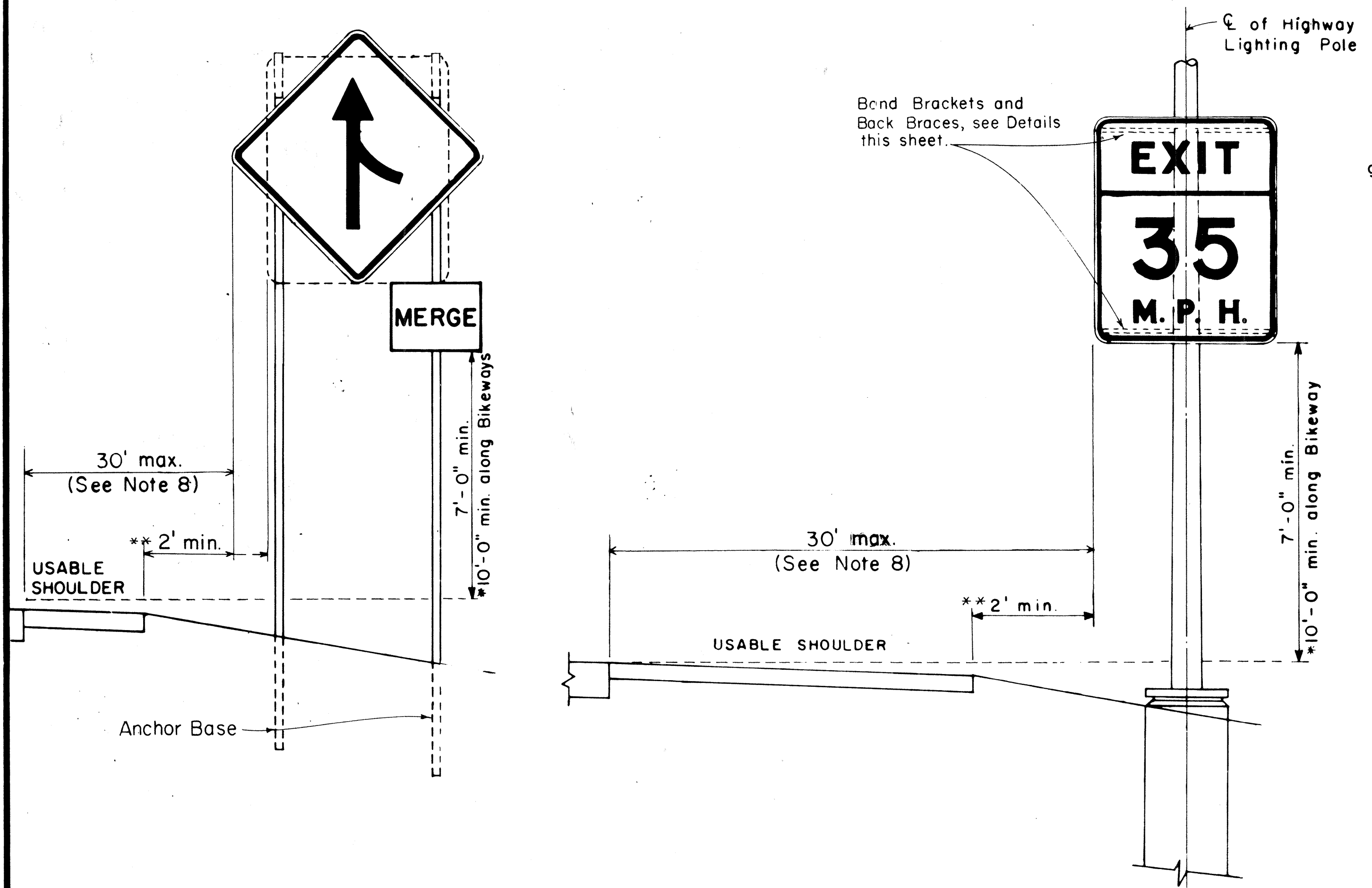
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale June, 1977



HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION



DATE	_____
SURVEY PLATTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-B3M	1983	10	22

A or A ₁	C	C ₁
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 4.

GENERAL NOTES

- Sign posts and base posts shall be flanged channel type structural steel conforming to ASTM A 499 and galvanized in accordance with ASTM A 123.
NOMINAL DIMENSIONS:
2.50 lbs./ft. - 3.125" x 1.562"
4.00 lbs./ft. - 3.500" x 1.750"
- Retainer - Spacer Strap shall be AISI 1020 steel and galvanized in accordance with ASTM A 123.
- Retainer and Connector Bolts shall be 5/16 - 18 UNC x 1.75" long hex. head, integral flange conforming to ASTM A 354 Grade BC. Nuts shall be 5/16 - 18 UNC hex. head, integral flange conforming to ASTM A 563 Grade D. All bolts and nuts shall be cadmium plated per Federal spec. QQP 416 B, Class 2, Type 2.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- For additional details see sht. DT-100.
- Basic formulas for use with the windload charts:
Factor = $A \times B \times H$
Therefore, if sign area ($A \times B$) is known,
Maximum $H = \frac{\text{Factor}}{\text{sign area (A x B)}}$
and if H is known,
Maximum sign area ($A \times B$) = $\frac{\text{Factor}}{H}$

APPROVAL RECOMMENDED:

Eishi Tanaka 9/21/82
TRAFFIC ENGINEER DATE

APPROVED:

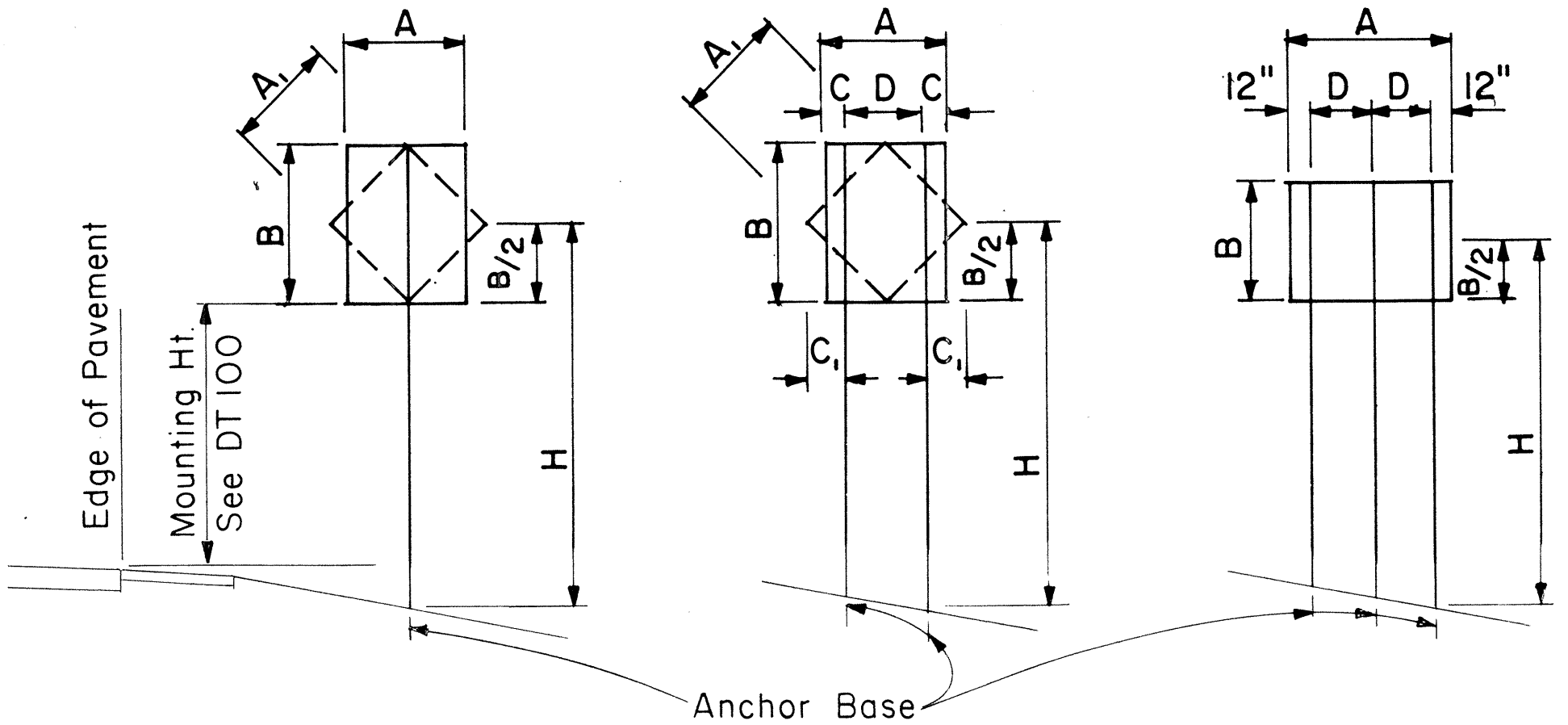
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
GALVANIZED FLANGED CHANNEL
SIGN POST MOUNTING

Scale: As Shown
Date: Sept. 1982

SHEET NO. 2 OF 14 SHEETS DT 100A



1 - POST
Sign area 10 sq. ft. and less

2 - POST
Sign area greater than 10 sq. ft. or A = 48" - 60"

3 - POST
A = greater than 60"

TYPICAL INSTALLATION

Not to Scale

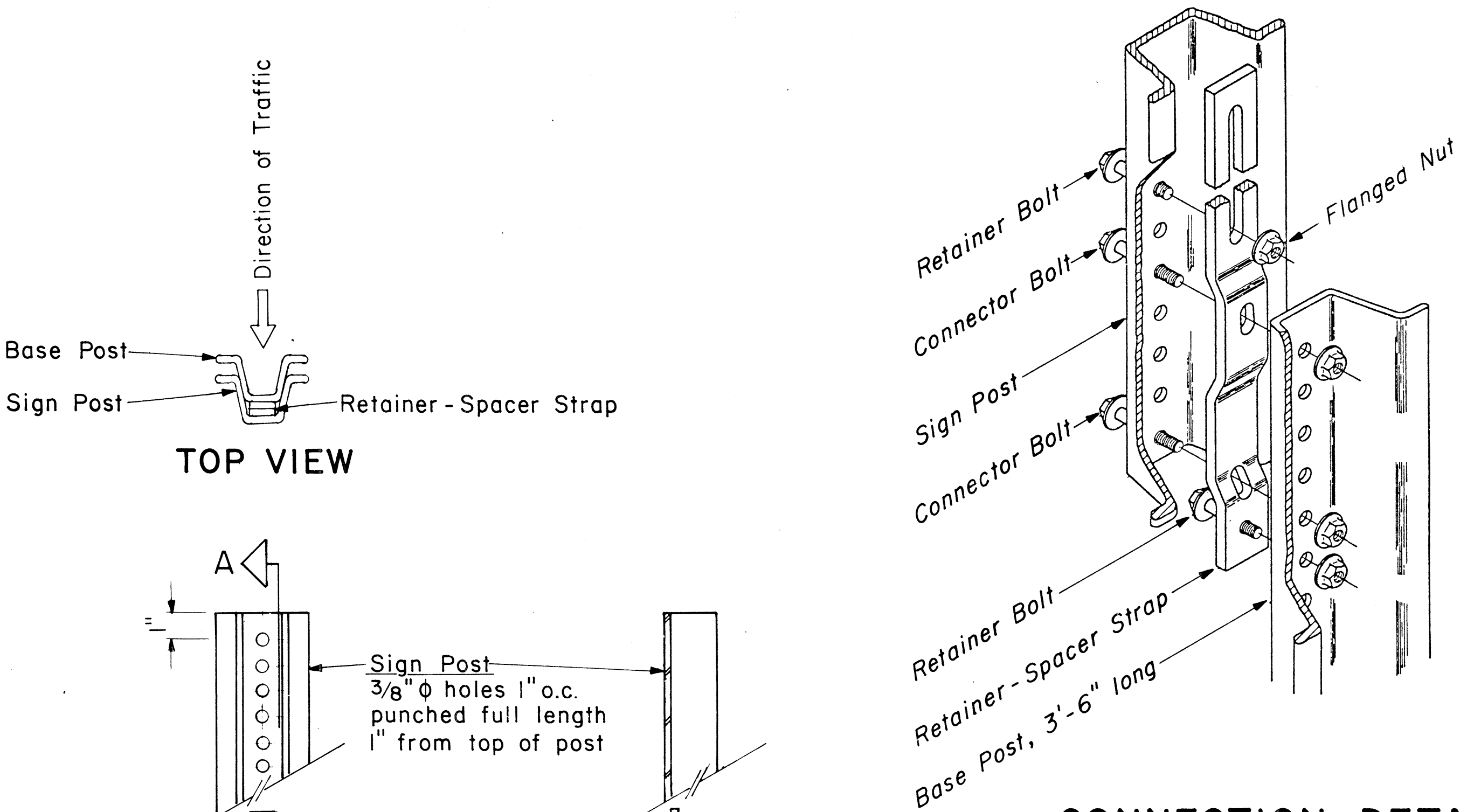
FLANGED CHANNEL: 1-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2.50 lbs./ft.	57	8.14	7.13	6.33	5.70	5.18	4.75
4.00 lbs./ft.	112	-	-	-	-	-	9.33
		A x B (Area, sq. ft.)					

FLANGED CHANNEL: 2-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2.50 lbs./ft.	124	17.71	15.50	13.77	12.40	11.27	10.33
4.00 lbs./ft.	241	34.43	30.13	26.78	24.10	21.91	20.08
		A x B (Area, sq. ft.)					

FLANGED CHANNEL: 3-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2.50 lbs./ft.	187	26.71	23.38	20.78	18.70	17.00	15.58
4.00 lbs./ft.	362	51.71	45.25	40.22	36.20	32.91	30.17
		A x B (Area, sq. ft.)					

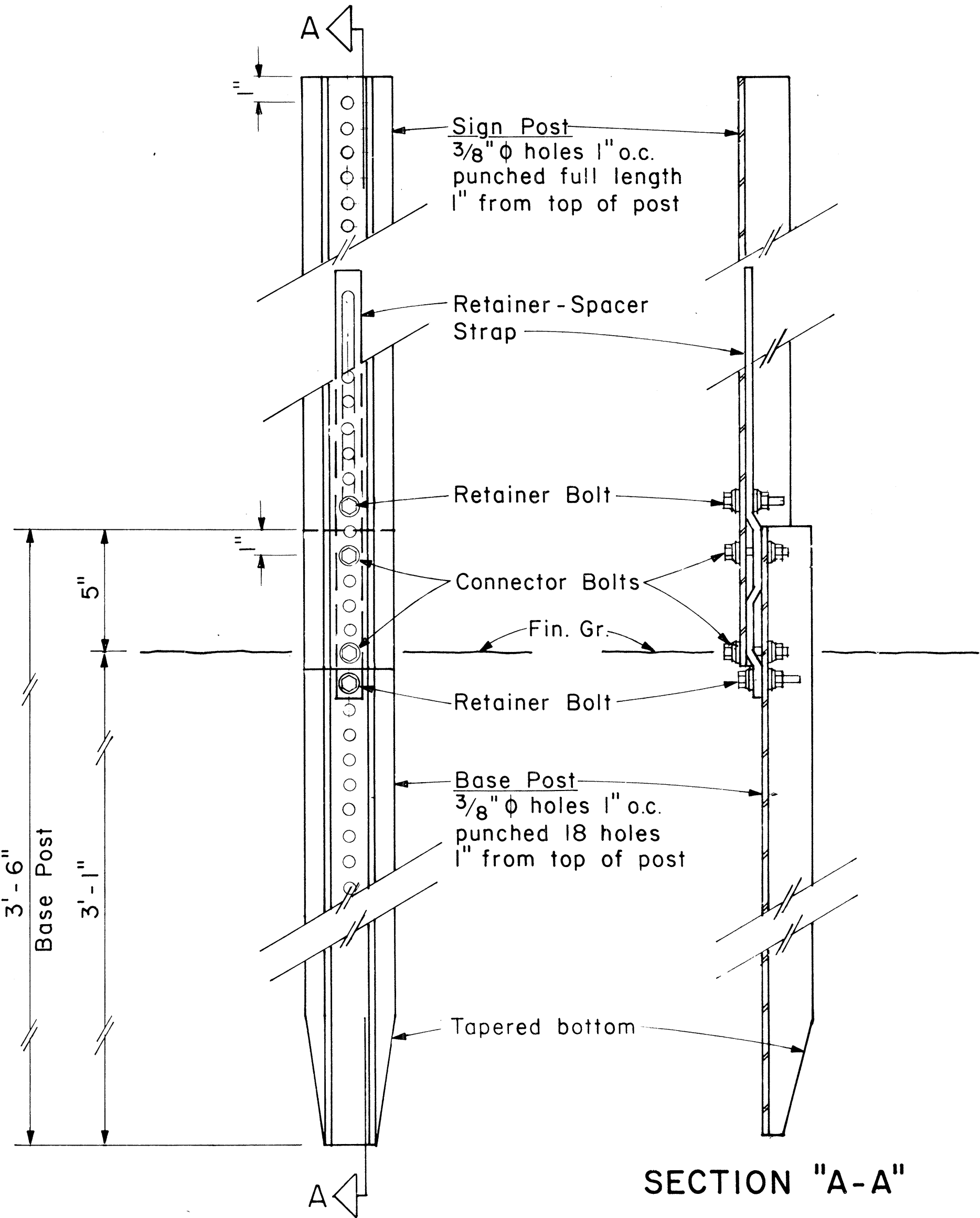
WINDLOAD CHARTS

NO.	REVISION	APPROVED BY	DATE



CONNECTION DETAIL

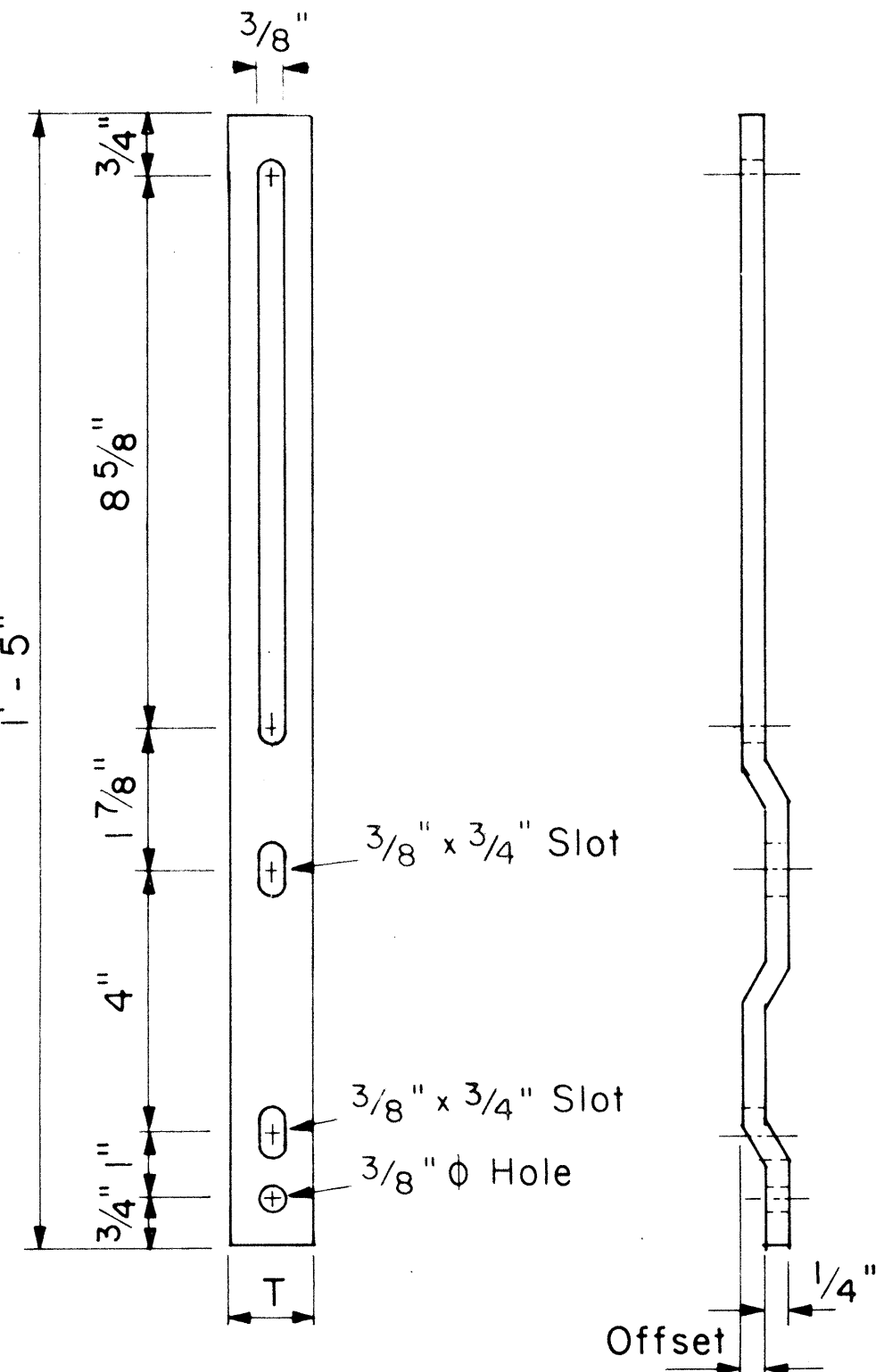
Not to Scale



BACK VIEW

ANCHOR BASE DETAIL

Scale: 3" = 1' - 0"



RETAINER-SPACER STRAP

Not to Scale

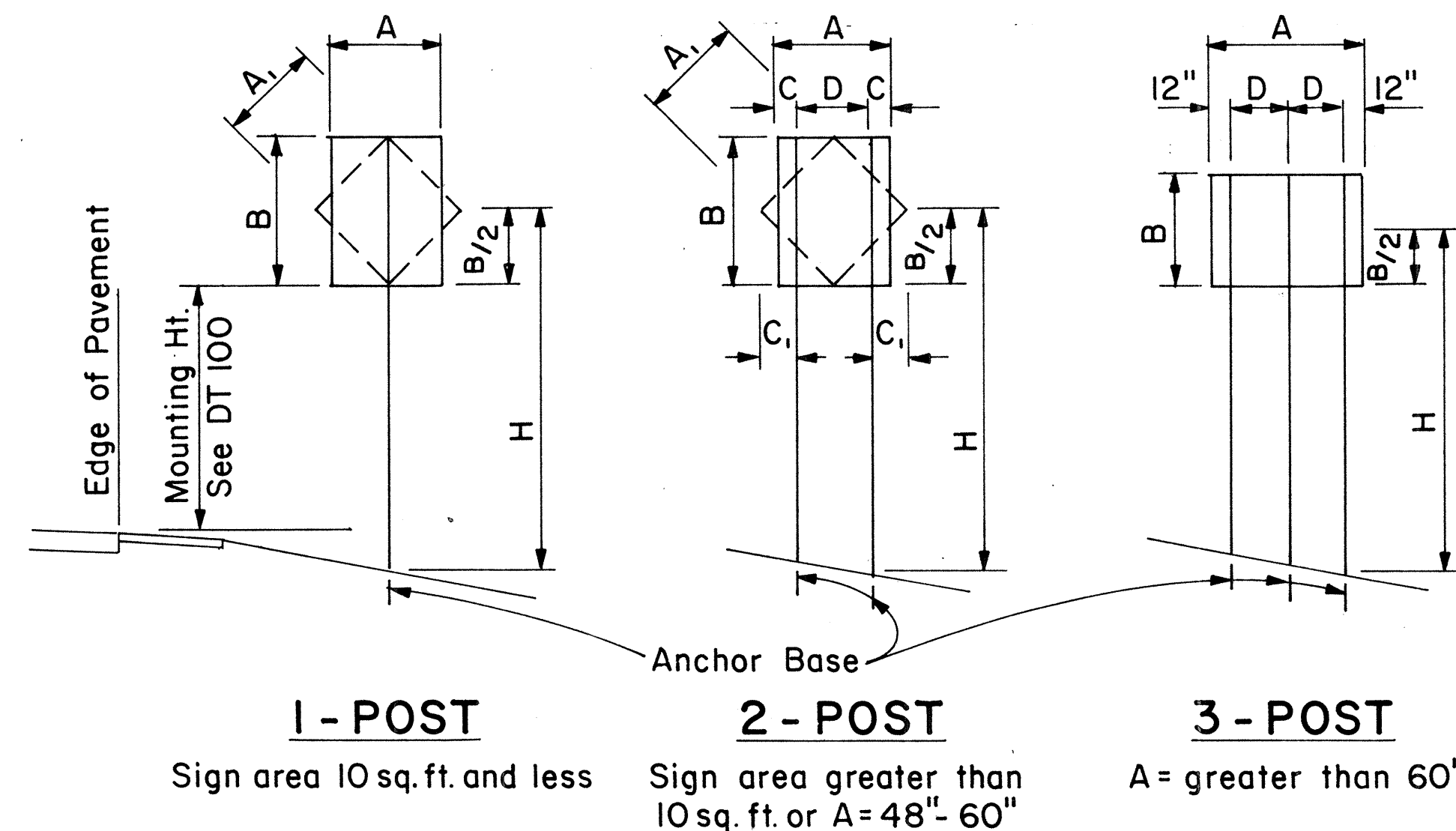
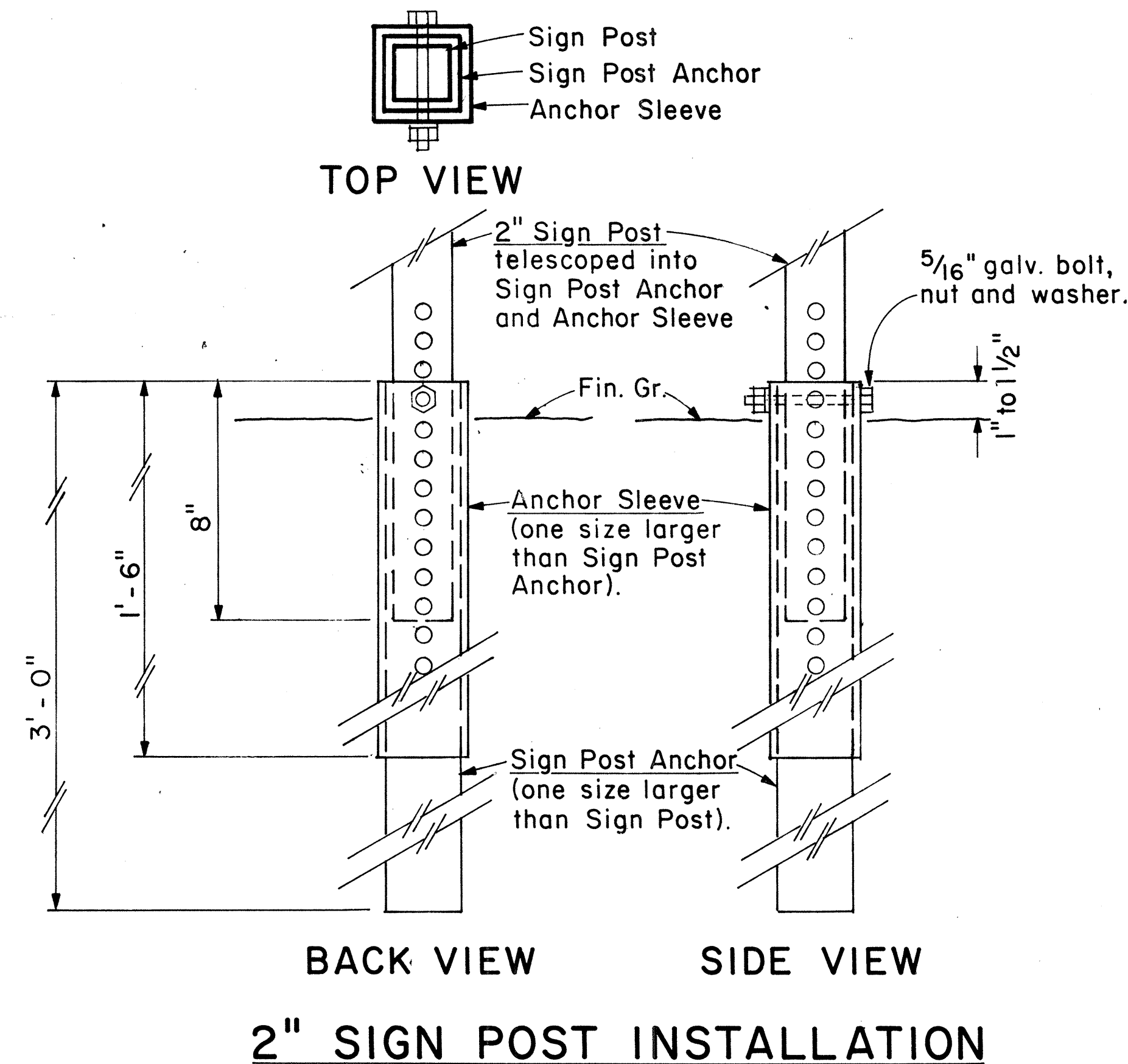
RETAINER-SPACER STRAP		
Post Size	T	Offset
2.50 lbs./ft.	1.00"	0.145"
4.00 lbs./ft.	1.12"	0.280"

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-03M	1983	11	22

GENERAL NOTES

- Square tube sign posts shall conform to Subsection 713.11(C) Square Tube Posts of the Specifications.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- Square tube posts shall be perforated with $\frac{7}{16}$ " ϕ holes, 1" o.c., 4 sides, along entire length of post.
- All posts shall be 12 gage unless otherwise specified or shown on the plans.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:
Factor = $A \times B \times H$
Therefore, if sign area ($A \times B$) is known,
Maximum $H = \frac{\text{Factor}}{\text{sign area (A x B)}}$
and if H is known,
Maximum sign area ($A \times B$) = $\frac{\text{Factor}}{H}$



A or A ₁	C	C ₁
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 2.

TYPICAL INSTALLATION

Not to Scale

SQUARE TUBE: 1 - POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	62	8.8	7.7	6.8	6.1	5.6	4.8
2 1/2"	107	-	-	-	-	9.6	8.8

A x B (Area, sq. ft.)

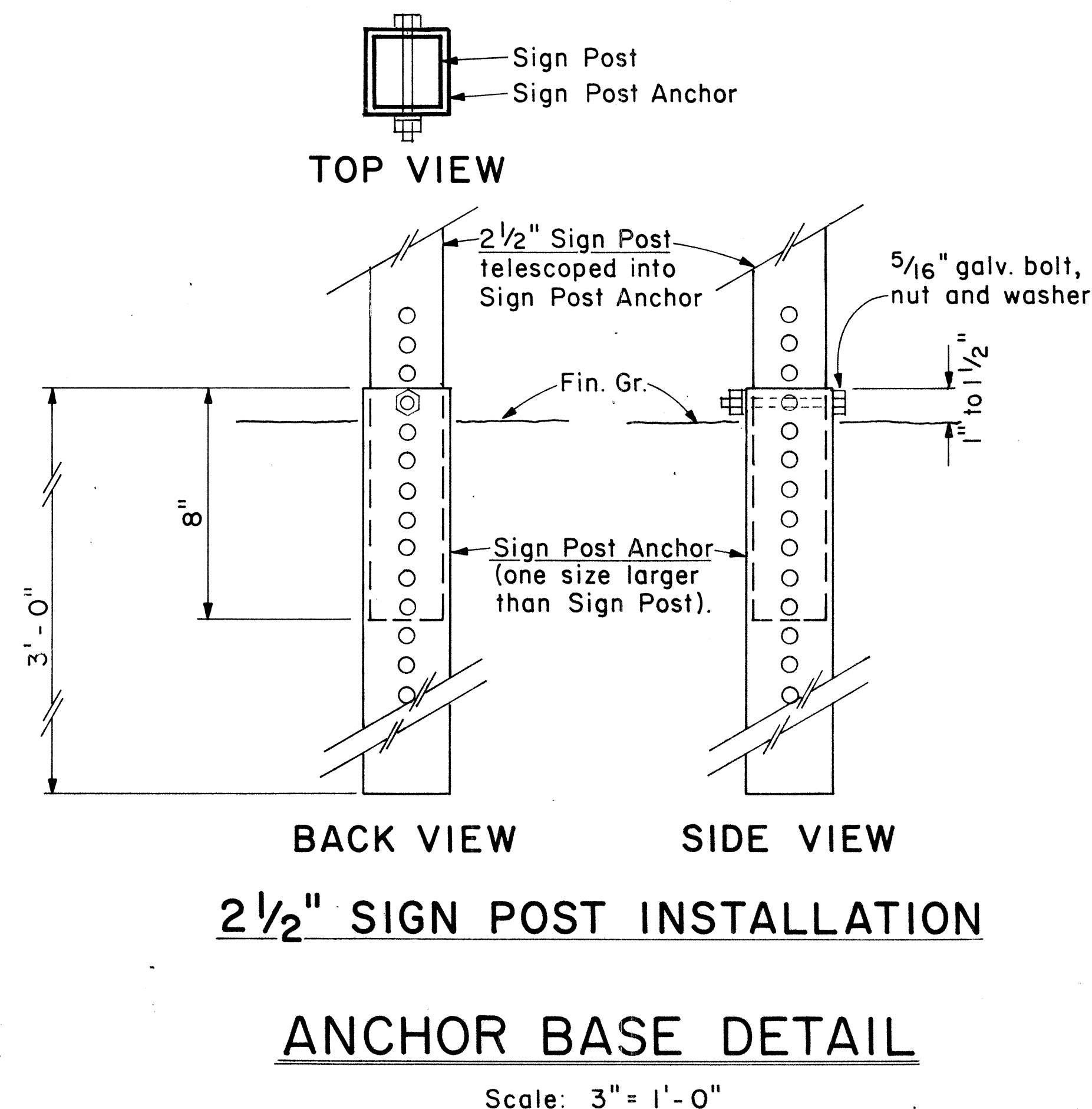
SQUARE TUBE: 2 - POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	122	17.4	15.2	13.5	12.2	11.0	10.1
2 1/2"	212	30.2	26.5	23.5	21.1	19.2	17.6
2 1/2", 10 ga.	260	37.0	32.0	28.6	26.0	23.5	21.5

A x B (Area, sq. ft.)

SQUARE TUBE: 3 - POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	183	26.0	22.8	20.3	18.2	16.6	15.2
2 1/2"	318	45.4	39.5	35.2	31.5	28.8	26.5
2 1/2", 10 ga.	388	55.0	48.5	43.0	38.5	35.0	32.0

A x B (Area, sq. ft.)

WINDLOAD CHARTS



ANCHOR BASE DETAIL

Scale: 3" = 1'-0"

APPROVAL RECOMMENDED:

Eishi Tanaka 9/21/82
TRAFFIC ENGINEER DATE

APPROVED:

Albert Salaschi 9/22/82
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

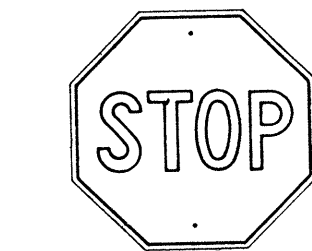
STANDARD DETAILS
GALVANIZED SQUARE TUBE
SIGN POST MOUNTING

Scale: As Shown
Date: Sept. 1982

SHEET No. 3 OF 14 SHEETS DT100B

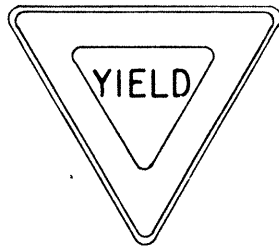
ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	562-0183M	1983	12	22

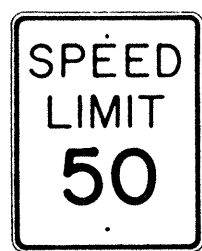


R1-1 30"x 30"
R1-1-A 36"x 36"

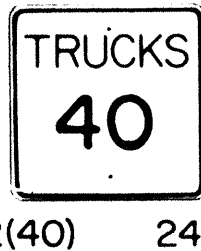
4-WAY
R1-3 12"x 6"
R1-3-A 18"x 9"



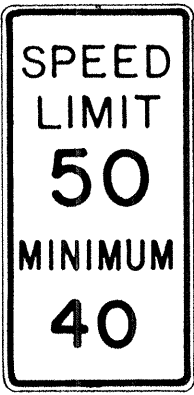
R1-2 36"x36"x36"
R1-2-A 48"x48"x48"



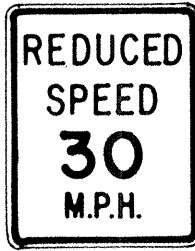
R2-1(50) 24"x 30"
R2-1(50)-A 48"x 60"



R2-2(40) 24"x 24"
R2-2(40)-A 48"x 48"



R2-4a(50/40) 24"x 48"
R2-4a(50/40)-A 48"x 96"



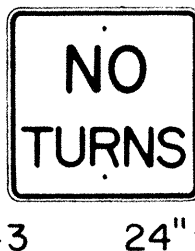
R2-5b(30) 24"x 30"
R2-5b(30)-A 48"x 60"



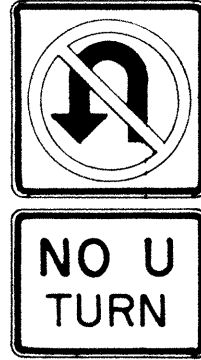
R3-1 24"x 24"
24"x 18"
R3-1-A 48"x 48"
48"x 36"



R3-2 24"x 24"
24"x 18"
R3-2-A 48"x 48"
48"x 36"



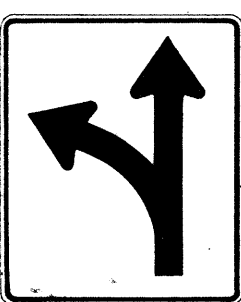
R3-3 24"x 24"
R3-3-A 48"x 48"



R3-4 24"x 24"
24"x 18"
R3-4-A 4"x 4f"
48"x 36"



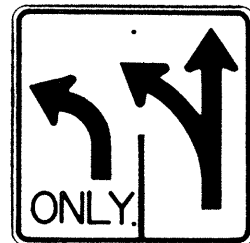
R3-5(L) 30"x 36"
R3-5(L)-A 48"x 60"



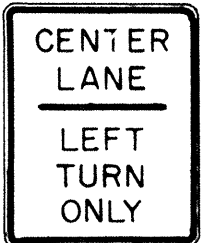
R3-6(L) 30"x 36"
R3-6(L)-A 48"x 60"



R3-7(R) 30"x 30"
R3-7(R)-A 48"x 48"



R3-8(L) 30"x 30"
R3-8(L)-A 36"x 36"
R3-8(L)-B 48"x 48"



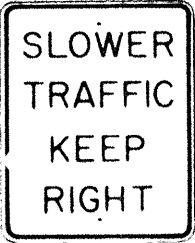
R3-9 24"x 30"



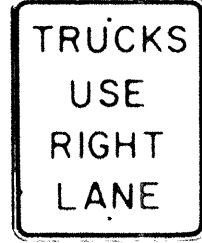
R4-1 24"x 30"



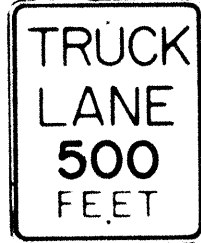
R4-2 24"x 30"



R4-3 24"x 30"
R4-3-A 48"x 60"



R4-5 24"x 30"



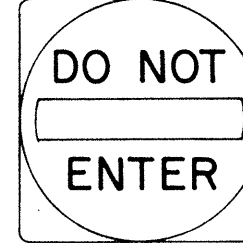
R4-6(500) 24"x 30"



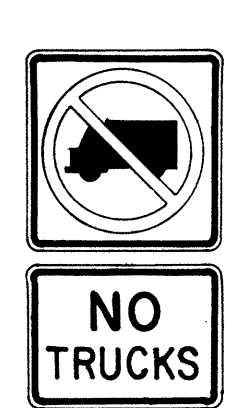
R4-7 24"x 30"
24"x 18"



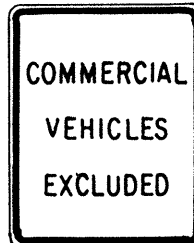
R4-8 24"x 30"
24"x 18"



R5-1 30"x 30"
R5-1-A 48"x 48"



R5-2 24"x 24"
24"x 18"



R5-4 24"x 30"



R5-6 24"x 24"
24"x 18"



R5-9 36"x 24"



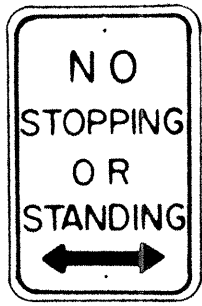
R6-1(R) 36"x 12"



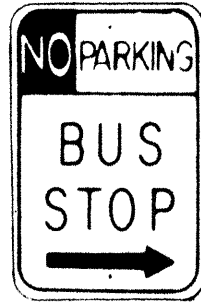
R6-2(R) 18"x 24"



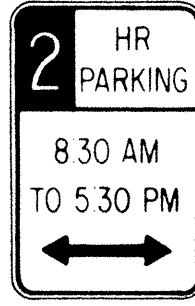
R7-1 12"x 18"
R7-1-A 24"x 30"



R7-4 12"x 18"
R7-4-A 24"x 30"



R7-1, 7(R) 12"x 18"



R7-108 12"x 18"



R7-201 12"x 6"
R7-201-A 24"x 12"



R8-1 24"x 30"



R8-2 24"x 30"



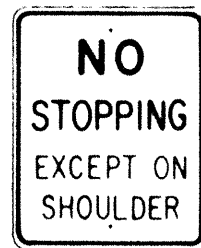
R8-3 24"x 30"



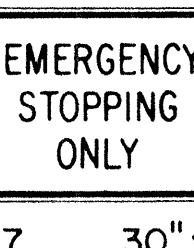
R8-4 30"x 24"
R8-4-A 48"x 36"



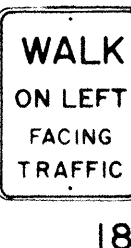
R8-5 24"x 30"



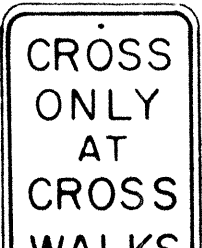
R8-6 24"x 30"



R8-7 30"x 24"
R8 7-A 48"x 36"



R9-1 18"x 24"



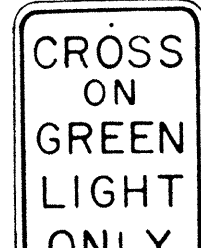
R9-2 12"x 18"



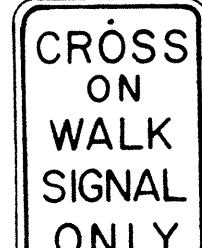
R9-3 12"x 18"



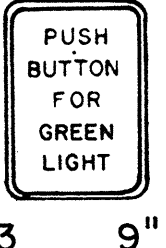
R9-4 18"x 24"



R10-1 12"x 18"



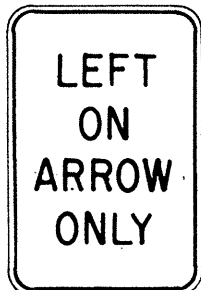
R10-2 12"x 18"



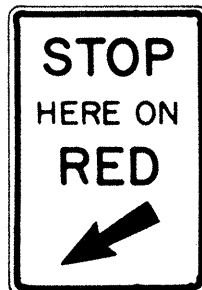
R10-3 9"x 12"



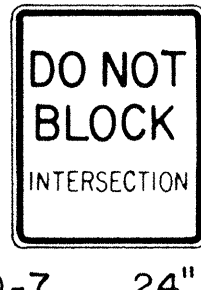
R10-4 9"x 12"



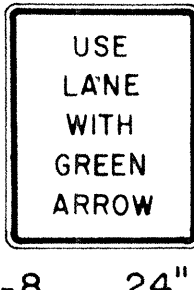
R10-5 24"x 30"



R10-6 24"x 36"



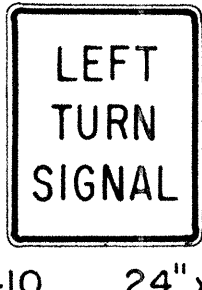
R10-7 24"x 30"



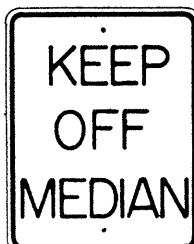
R10-8 24"x 30"



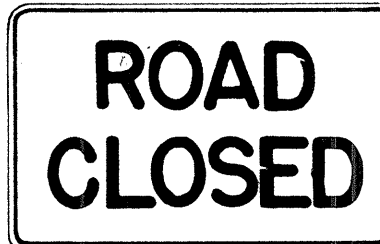
R10-9 24"x 30"



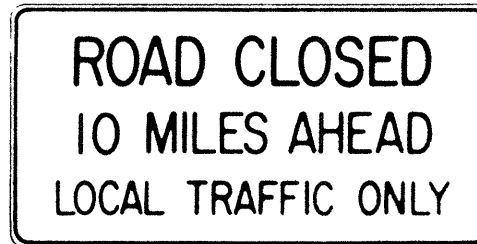
R10-10 24"x 30"



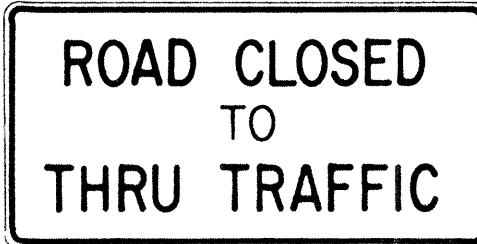
R11-1 24"x 30"



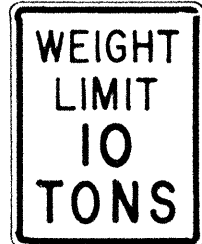
R11-2 48"x 30"



R11-3(10) 60"x 30"



R11-4 60"x 30"



R12-1(10) 24"x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- All signs shall be erected without educational plaques unless called for in the plans.

APPROVAL RECOMMENDED:

Etsuki Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:

Julius J. Zolner
ASSISTANT CHIEF, ENGINEERING

3-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.I.	2/20/72
2	Revised General Note 1.	H.I.	10/10/74
3	Added General Note 5	H.I.	8/3/77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

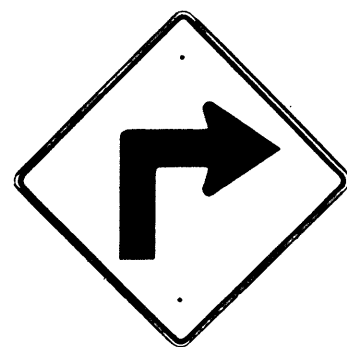
STANDARD DETAILS REGULATORY SIGNS

NOT TO SCALE

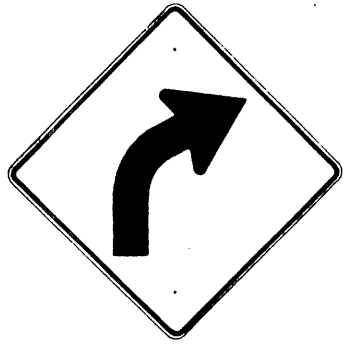
SHEET No. 4 OF 14 SHEETS DT 101

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

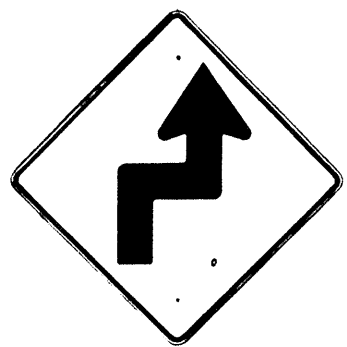
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5600183M	1983	13	22



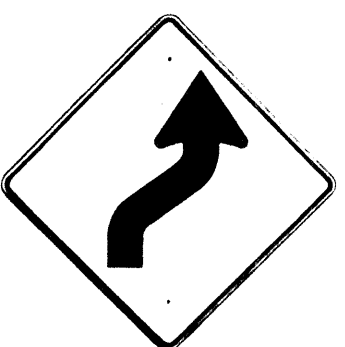
W1-1(R) 30"x 30"
W1-1(R)-A 48"x 48"



W1-2(R) 30"x 30"
W1-2(R)-A 48"x 48"



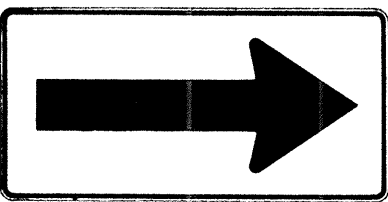
W1-3(R) 30"x 30"
W1-3(R)-A 48"x 48"



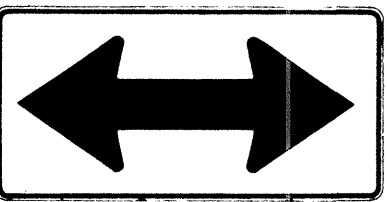
W1-4(R) 30"x 30"
W1-4(R)-A 48"x 48"



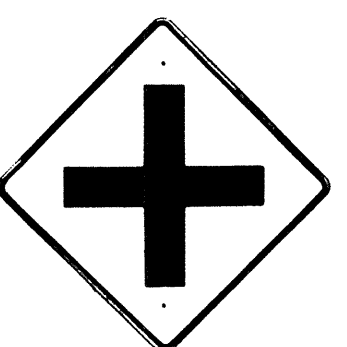
W1-5(R) 30"x 30"
W1-5(R)-A 48"x 48"



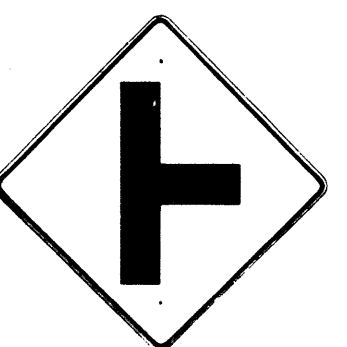
W1-6 48"x 24"



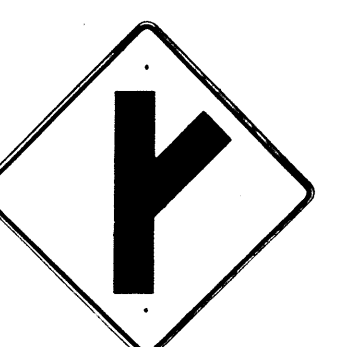
W1-7 48"x 24"



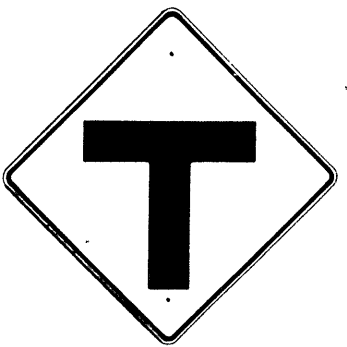
W2-1 30"x 30"
W2-1-A 48"x 48"



W2-2 30"x 30"
W2-2-A 48"x 48"



W2-3(R) 30"x 30"
W2-3(R)-A 48"x 48"



W2-4 30"x 30"
W2-4-A 48"x 48"



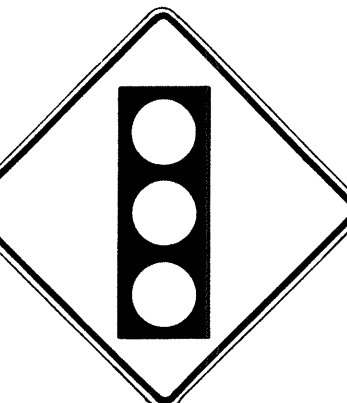
W2-5 30"x 30"
W2-5-A 48"x 48"



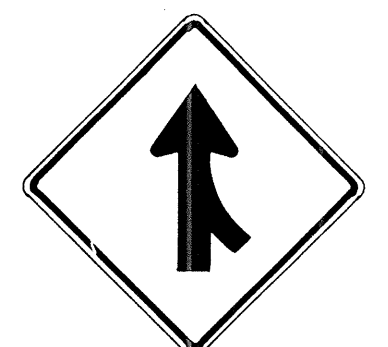
W3-1 30"x 30"
W3-1-A 36"x 36"



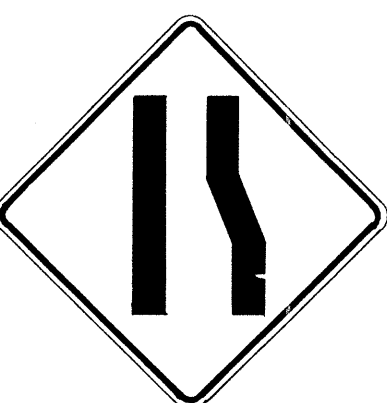
W3-2 30"x 30"
W3-2-A 36"x 36"



SIGNAL AHEAD
W3-3 36"x 36"
24"x 18"



MERGE
W4-1(R) 30"x 30"
24"x 18"
W4-1(R)-A 48"x 48"
24"x 18"



W4-2(R) 36"x 36"
W4-2(R)-A 48"x 48"



W5-1 36"x 36"



W5-2 30"x 30"
W5-2-A 36"x 36"



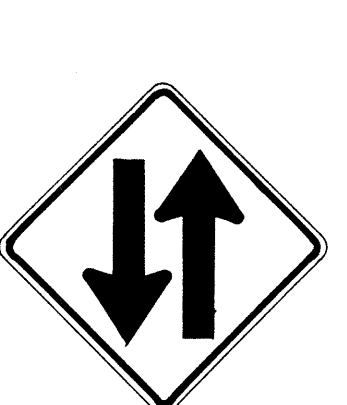
W5-3 36"x 36"



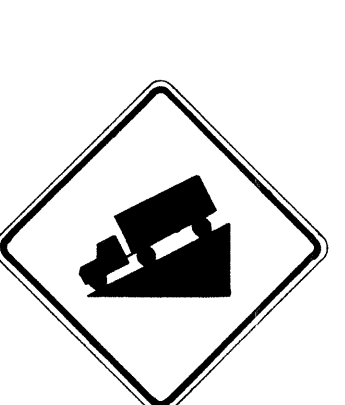
DIVIDED HIGHWAY
W6-1 36"x 36"
24"x 18"



DIVIDED HIGHWAY ENDS
W6-2 36"x 36"
24"x 18"



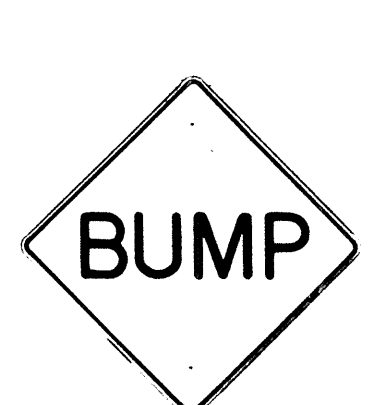
TWO WAY TRAFFIC
W6-3 30"x 30"
24"x 18"
W6-3-A 36"x 36"
24"x 18"
W6-3-B 48"x 48"
24"x 18"



HILL
W7-1 30"x 30"
24"x 18"
W7-1-A 36"x 36"
24"x 18"



W7-2 24"x 18"



W8-1 30"x 30"
W8-1-A 36"x 36"



W8-2 30"x 30"
W8-2-A 36"x 36"



W8-3 30"x 30"
W8-3-A 36"x 36"



W8-4 30"x 30"
W8-4-A 36"x 36"



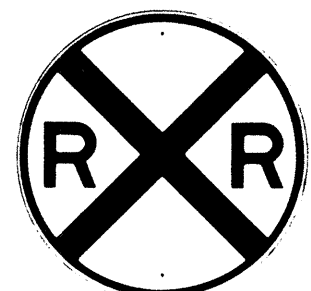
SLIPPERY WHEN WET
W8-5 30"x 30"
24"x 18"
W8-5-A 36"x 36"
24"x 18"



W9-1(R) 30"x 30"
W9-1(R)-A 36"x 36"
W9-1(R)-B 48"x 48"



W9-2(L) 36"x 36"
W9-2(L)-A 48"x 48"



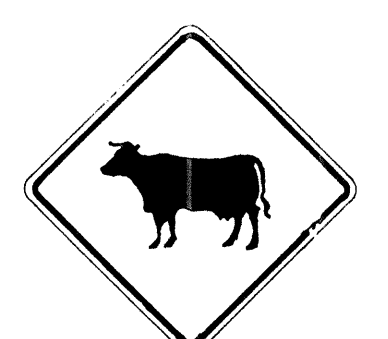
W10-1 36" Diameter



BIKE XING
W11-1 30"x 30"
24"x 18"
W11-1-A 36"x 36"
24"x 18"



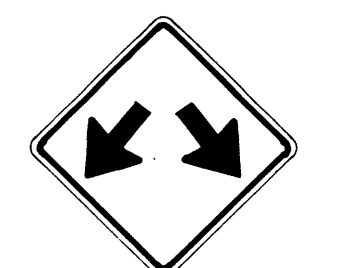
PED XING
W11-2 30"x 30"
24"x 18"
W11-2-A 36"x 36"
24"x 18"



CATTLE XING
W11-4 30"x 30"
24"x 18"
W11-4-A 36"x 36"
24"x 18"



FARM MACHINERY
W11-5 30"x 30"
24"x 18"
W11-5-A 36"x 36"
24"x 18"



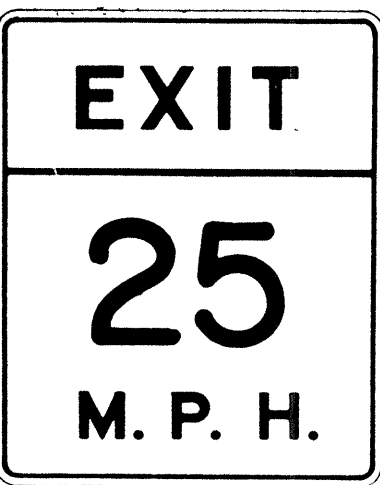
W12-1 24"x 24"
W12-1-A 36"x 36"
W12-1-B 48"x 48"



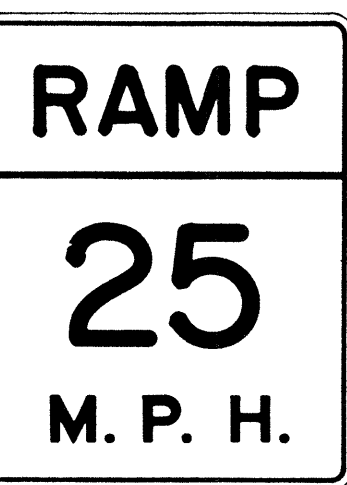
LOW CLEARANCE
W12-2(12'-6") 36"x 36"
24"x 18"



W13-1(25) 18"x 18"
W13-1(25)-A 24"x 24"



W13-2(25) 48"x 60"



W13-3(25) 48"x 60"



W14-1 30"x 30"



W14-3 36"x 48" x 48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All warning signs shall be reflectorized unless otherwise specified.
- All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:
Richard Salsido
ASSISTANT CHIEF, ENGINEERING

3-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/72
2	Revised General Note 1	H.T.	10/16/72
3	Revised General Note 5	MA	9-16-75
4	Revised General Note 5	H.T.	9-14-76
5	Added Note 1	H.T.	11-3-77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS WARNING SIGNS

NOT TO SCALE

SHEET No. 5 OF 14 SHEETS DT 102

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5600183M	1983	14	22

General Notes

- Sign details shall conform to the latest editions of the following FHWA publications:
 - "Standard Alphabets for Highway Signs," and as amended.
 - "Standard Highway Signs," and as amended.
 - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- All signs shall be reflectorized with reflective sheeting, unless otherwise specified.
- All signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations.
- Numerals in () indicate numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized with reflective sheeting.
- All signs shall be erected without educational plaques unless called for in the plans.

ALL WAY
R1-4 18"x 6"

REDUCED SPEED
35
AHEAD
R2-5d(35) 24"x 30"
R2-5d(35)-A 48"x 60"

SPEED LIMIT
ENFORCED
BY
VASCAR
4" Series D
- 4" Series C
- 3" Series D
- 5" Series C
R2-10 24"x 30"

CENTER
LANE
ONLY
R3-9b 24"x 36"

BUS STOP
R7-107(R) 12"x 24"

RESERVED
PARKING
R7-8 12"x 18"
R7-8-A 24"x 30"

ANY TIME
R8-3a 24"x 24"
24"x 18"
R8-3a-A 48"x 48"

NO PED
XING
R9-3a 18"x 18"
18"x 12"
R9-3a-A 24"x 24"
24"x 18"

USE
CROSSWALK
R9-3b(R) 18"x 12"

USE
CROSSWALK
R9-3b(L) 18"x 12"

NO
TURN
ON
RED
R10-11a 24"x 30"

TURN
RIGHT
ANY TIME
WITH
CAUTION
4" Series C
R16-1 24"x 30"

NO
LEFT
TURN
ON
RED
4" Series D -
- 3" Series D -
- 2" Series D -
- 3" Series D -
R16-3 18"x 24"

NO
RIGHT
TURN
ON
RED
R16-4 18"x 24"

UNLICENSED
VEHICLES
BICYCLES, CYCLES
UNDER 5 H.P.,
PEDESTRIANS
KEEP OUT
FREEWAY
3" Series C
4" Series E
R16-5 36"x 42"

U
TURN
AHEAD
- 8" Series F
- 5" Series D
R16-6 24"x 30"

U
TURN
OK
8" Series F
5" Series D
R16-7 24"x 30"

MOTOR-DRIVEN
CYCLES
PROHIBITED
4" Series B
R5-8 30"x 24"

W17-1(L) 60"x 60"

STOP
AHEAD
W3-1a 36"x 36"
24"x 18"
W3-1a-A 48"x 48"
24"x 18"

YIELD
AHEAD
W3-2a 36"x 36"
24"x 18"
W3-2a-A 48"x 48"
24"x 18"

STOP
AHEAD
WHEN
FLASHING
6" Series C
W3-4 48"x 48"

TRUCK
CROSSING
W8-6 30"x 30"
W8-6-A 36"x 36"

THRU
TRAFFIC
MERGE
LEFT
6" Series E
W9-3(L) 48"x 48"

EQUESTRIAN
XING
W11-7 36"x 36"
24"x 18"
W11-7-A 48"x 48"
24"x 18"

FIRE
STATION
W11-8 36"x 36"
24"x 18"
W11-8-A 48"x 48"
24"x 18"

W11-9 36"x 36"
W11-9-A 48"x 48"

LIMITED
SIGHT
DISTANCE
W14-4 36"x 36"
W14-4-A 48"x 48"

DELAYED
GREEN
4" Series C
W15-1 24"x 24"

ADVANCE
GREEN
W15-2 24"x 24"

END
FREEWAY
1/2 MI
8" Series E
CW16-1(1/2) 60"x 60"

RIGHT
LANE
EXIT
ONLY
8" Series E
W18-1 48"x 60"

SI-1 36"x 36"

S2-1 36"x 36"

SCHOOL
BUS STOP
AHEAD
S3-1 30"x 30"

8:00 AM
TO 3:30 PM
S4-1 24"x 10"

WHEN
CHILDREN
ARE PRESENT

S4-2 24"x 10"

SCHOOL
S4-3 24"x 8"

WHEN
FLASHING

S4-4 24"x 10"

SIDEWALK
CLOSED
7" Series D
CW23-4 48"x 48"

USE
SIDEWALK
4" Series C
R18-1 24"x 18"

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT103 approved 3/20/72	H.T.	5/3/78
2	Added General Note 6	H.T.	11/9/78

APPROVAL RECOMMENDED:
Eiichi Tanaka 5/2/78
TRAFFIC ENGINEER DATE

APPROVED:
Harold Z. Nakai 5/3/78
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
MISCELLANEOUS SIGNS
NOT TO SCALE DATE: MAY, 1978
SHEET NO. 6 OF 14 SHEETS DT 103

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56001834	1983	15	22



CW20-1a 48" x 48"



CW20-2d 48" x 48"



CW20-3b 48" x 48"



CW20-4d 48" x 48"



CW20-5d(L) 48" x 48"



CW20-7c 48" x 48"



CW21-1 30" x 30"



CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



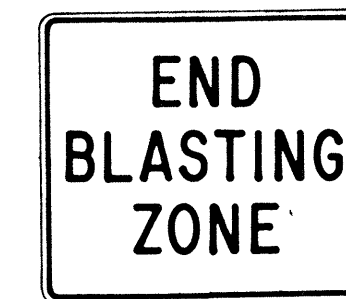
CW21-6 30" x 30"



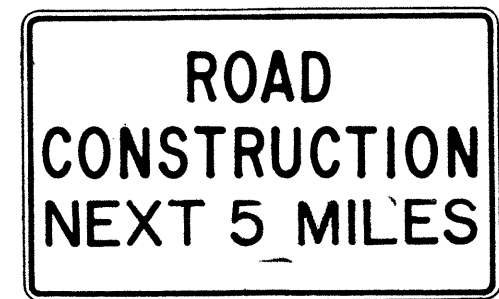
CW22-1b 48" x 48"



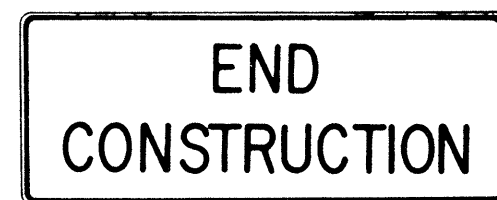
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



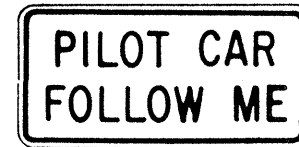
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



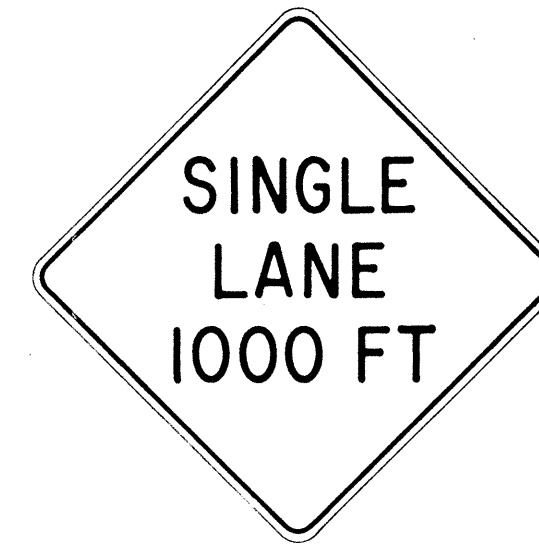
CM4-10(R) 48" x 18"



CG20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All construction signs shall be reflectorized.
- All construction signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- For "CW" series signs, suffixes a, b, c and d are as follows:
a-1500 FT, b-1000 FT, c-500 FT and d-AHEAD.

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	3/23/72
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 2	M.H.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER

3/21/72
DATE

APPROVED:

Arthur J. Salish
ASSISTANT CHIEF, ENGINEERING

3/23/72
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS CONSTRUCTION SIGNS

NOT TO SCALE

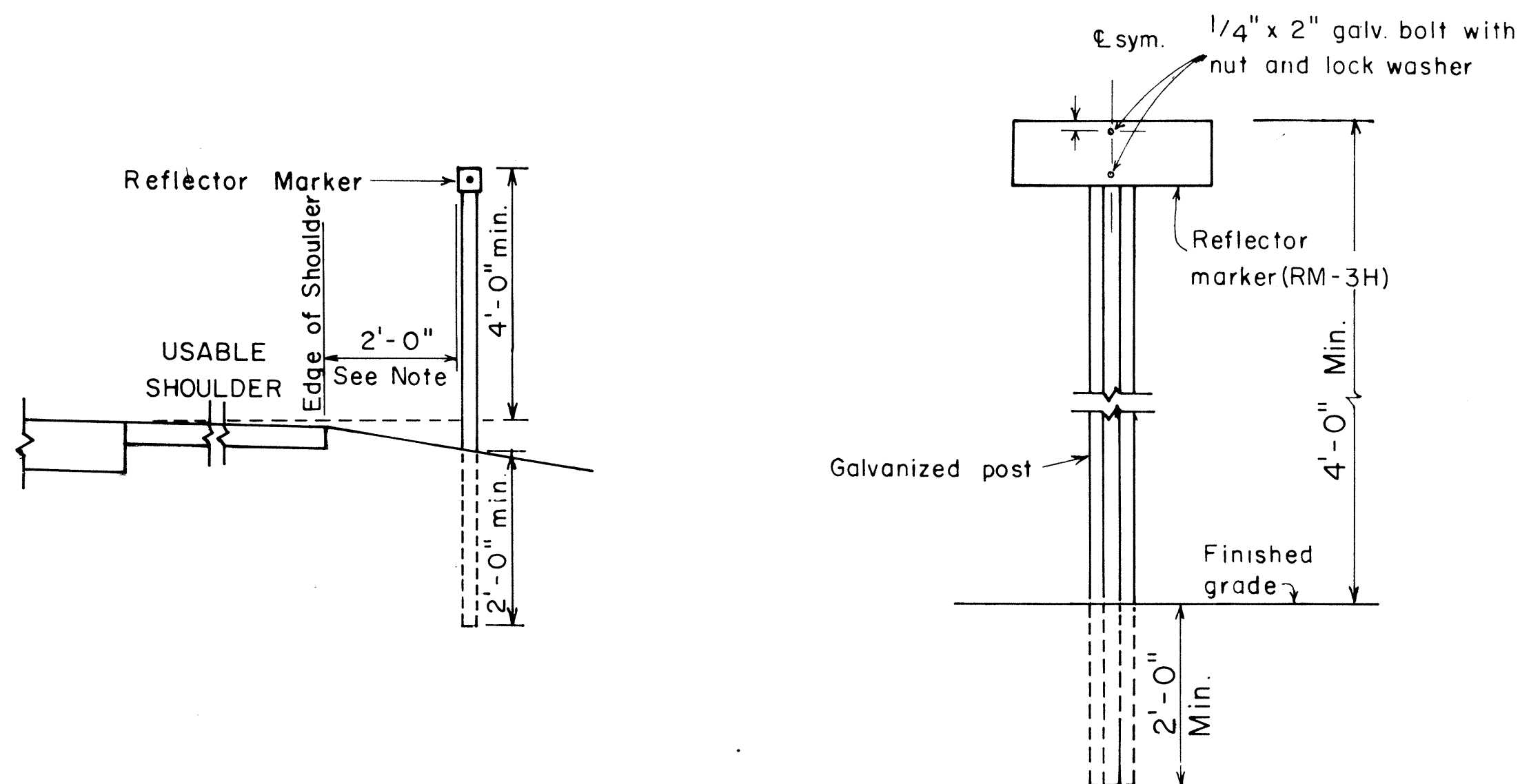
SHEET No. 7 OF 14 SHEETS DT 104

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	TRACED BY	
	EXAMINED BY	
	CHECKED BY	

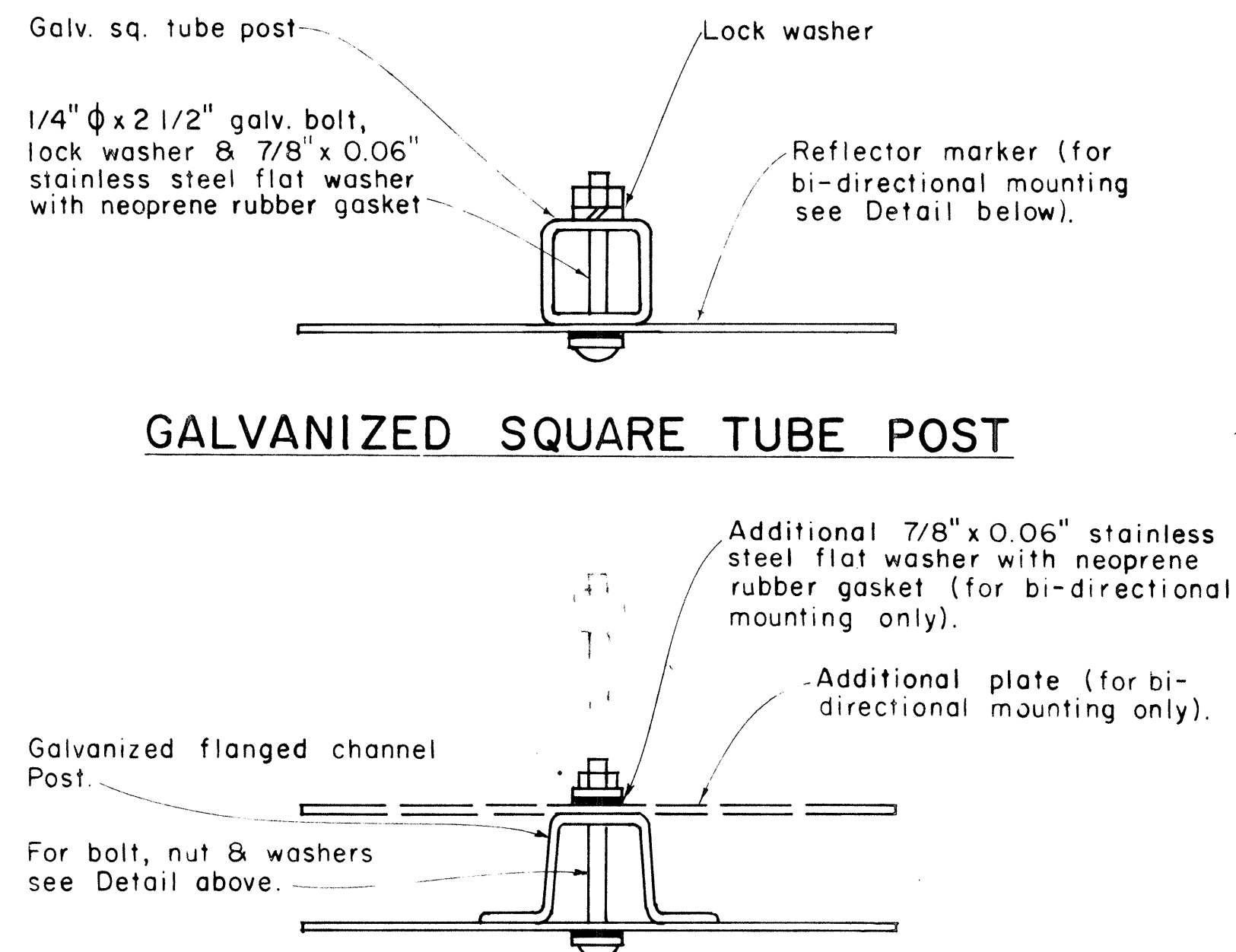
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56DD183M	1983	16	22

GENERAL NOTES:

1. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
2. (R) or (L) indicates right or left and shall be as shown on the plans.
3. Reflector markers RM-1 and RM-2 shall be:
 - a) Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
 - b) White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
4. For reflector marker RM-9, reflective sheeting material may be used as an alternate.
5. For RM-4, the stripes shall slope downward at an angle of 45° in the direction of traffic.



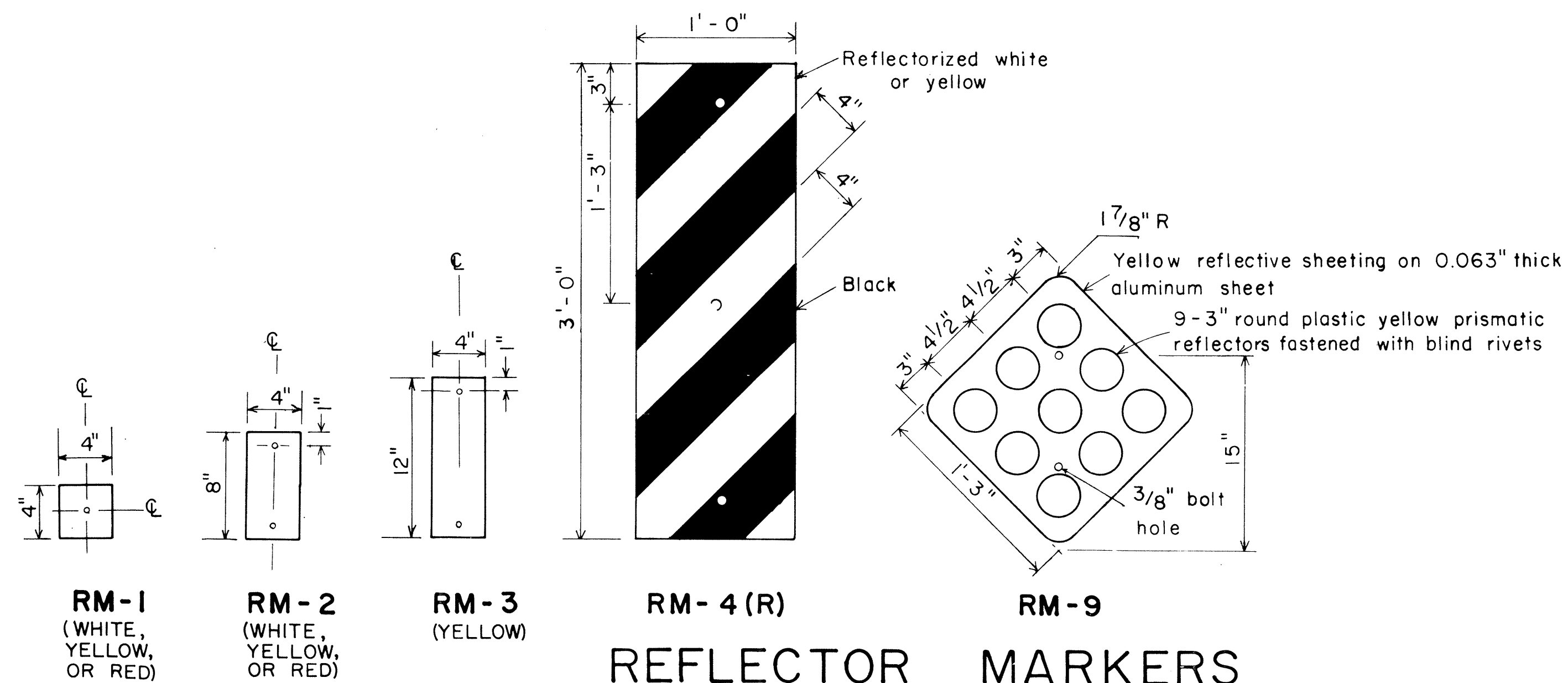
REFLECTOR MARKER MOUNTING DETAIL



GALVANIZED SQUARE TUBE POST

GALVANIZED FLANGED CHANNEL POST

TYPICAL MOUNTING DETAILS



APPROVAL RECOMMENDED:
Eugene Tanaka 11/2/77
 TRAFFIC ENGINEER DATE

APPROVED:
Robert S. Sakuma 11/2/77
 ASSISTANT CHIEF, ENGINEERING DATE

NO	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H.T.	4/23/80

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

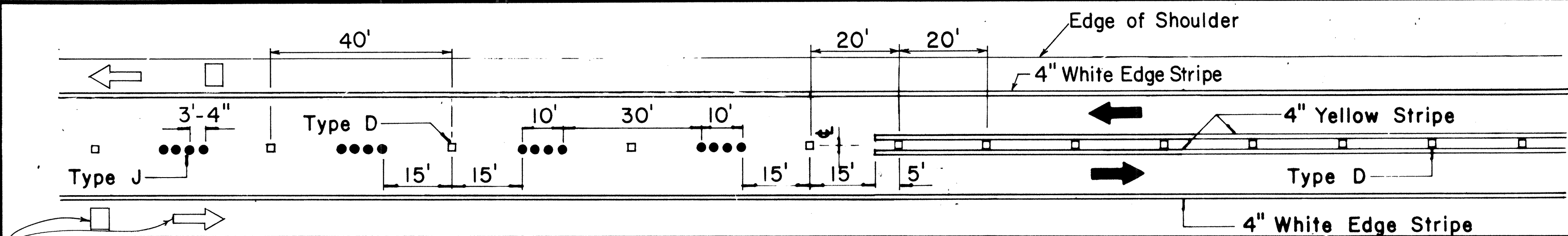
MISCELLANEOUS REFLECTOR MARKERS

Not to scale June, 1977

SHEET NO. 8 OF 14 SHEETS DT 110

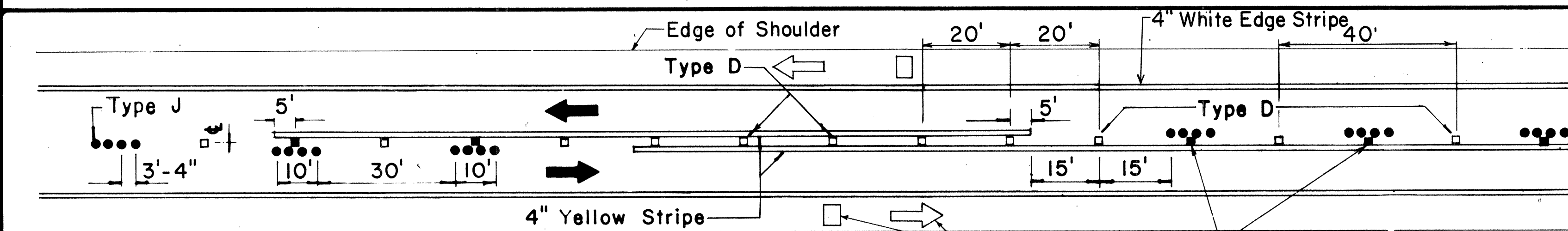
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5600183M	1983	17	22



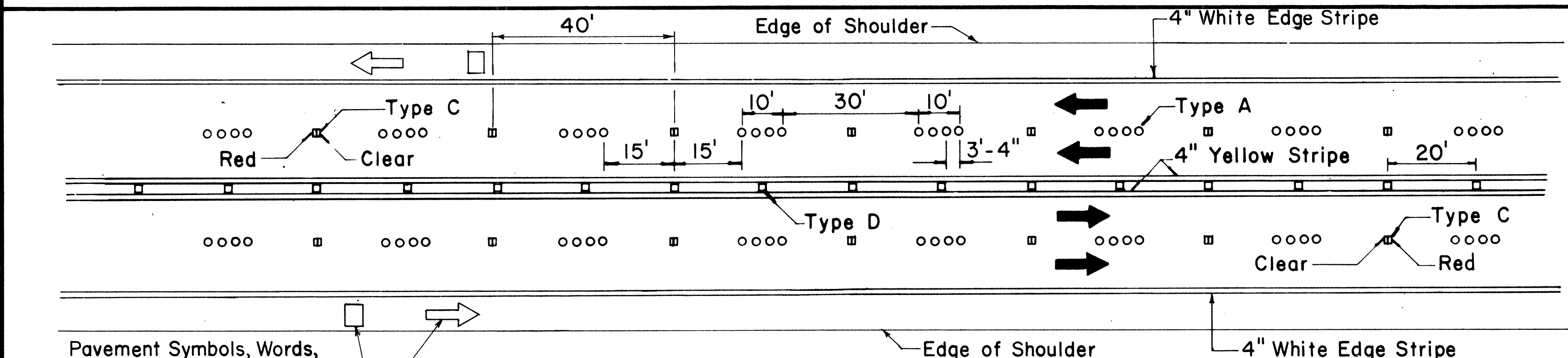
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

PASSING PERMITTED AND PASSING PROHIBITED

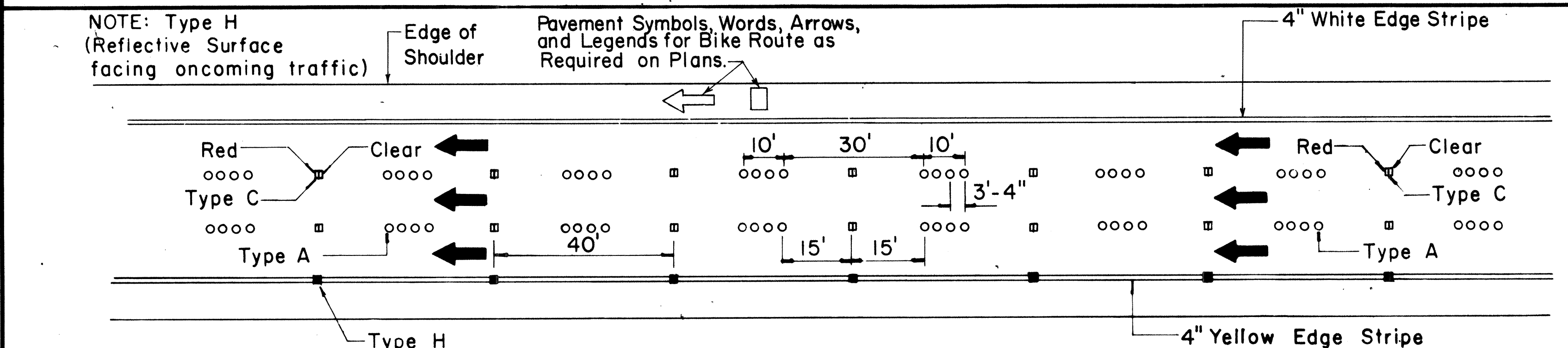


Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

PASSING PROHIBITED ZONES

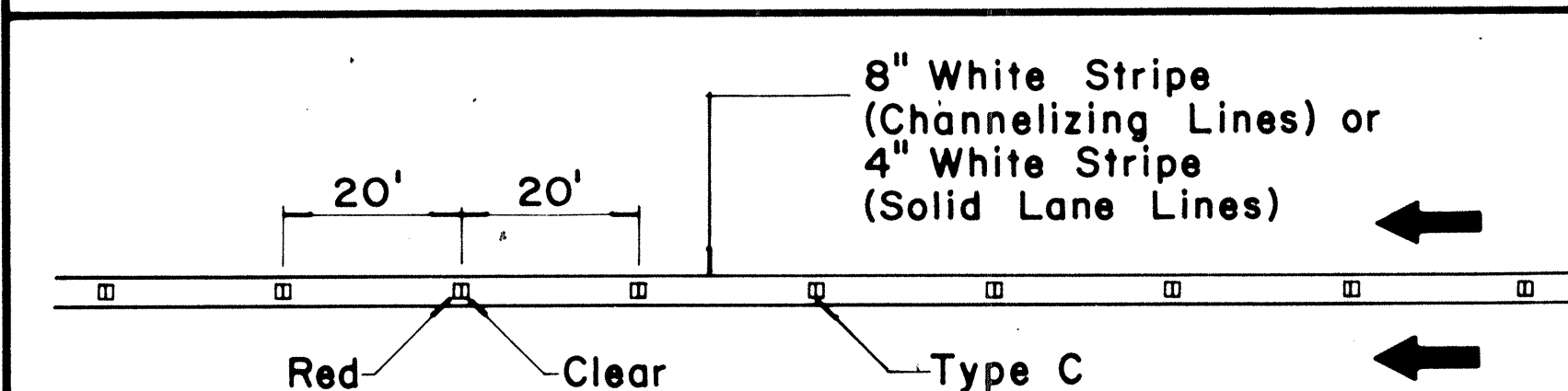


Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

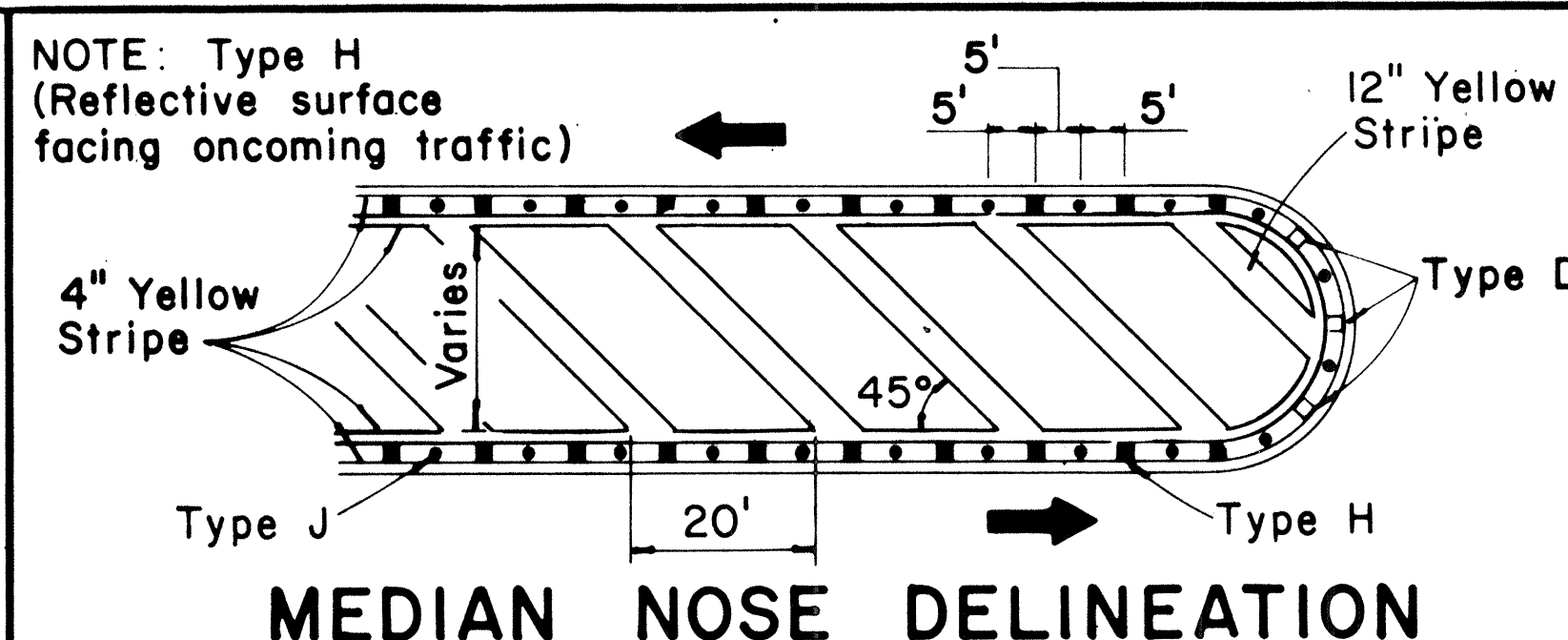


NOTE: Type H (Reflective Surface facing oncoming traffic)

Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.



CHANNELIZING LINES OR SOLID LANE LINES



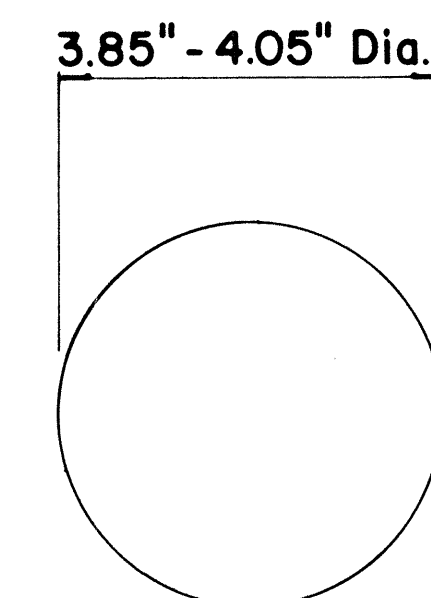
NOTE: Type H (Reflective surface facing oncoming traffic)

TWO - LANE

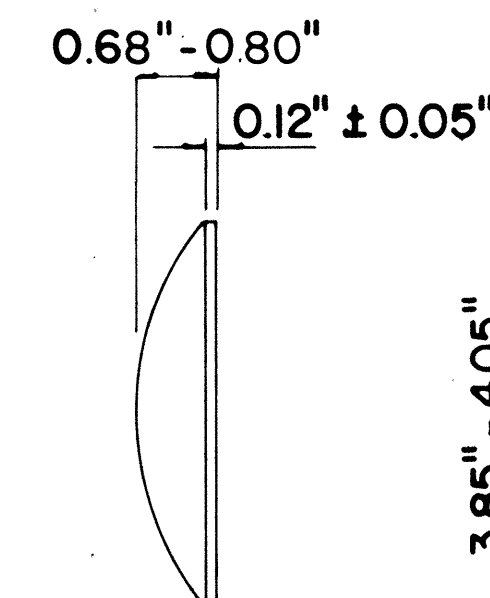
MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

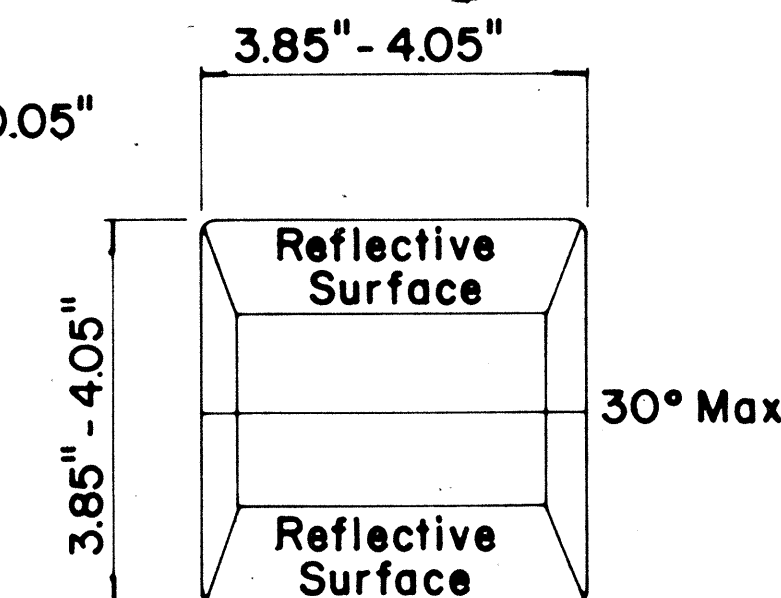
MISCELLANEOUS



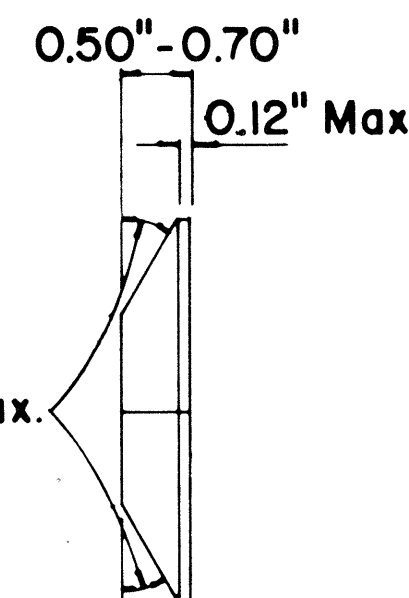
TYPE A
NON-REFLECTIVE WHITE MARKER



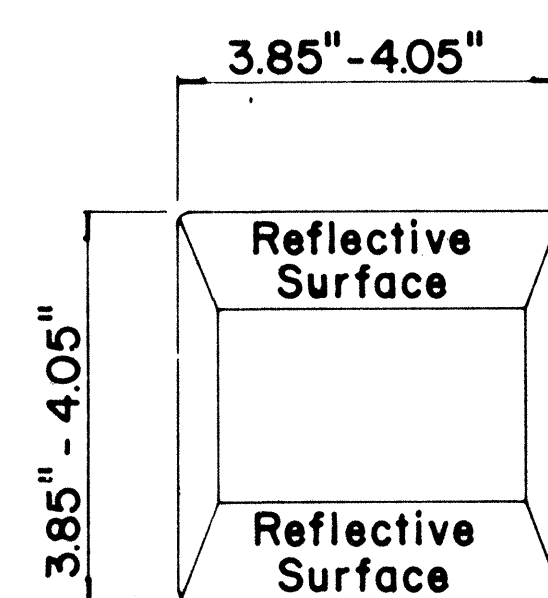
TYPE J
NON-REFLECTIVE YELLOW MARKER



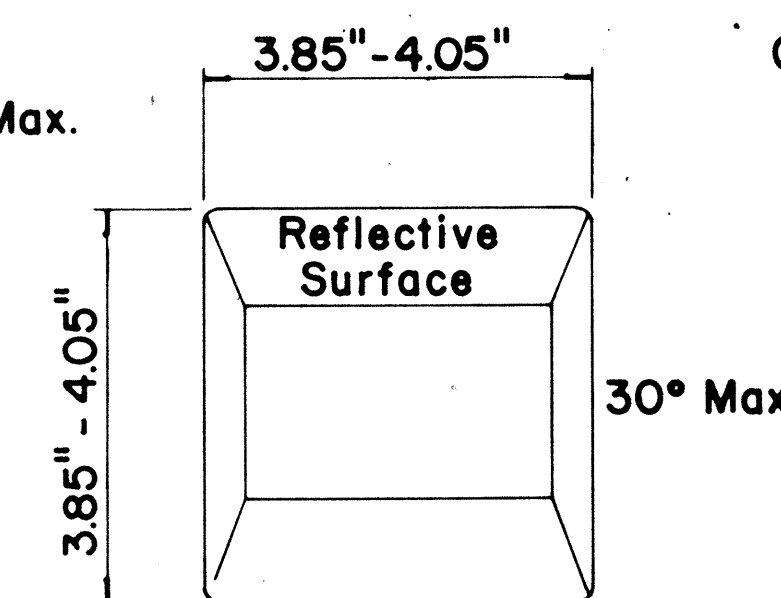
TYPE C
RED-CLEAR REFLECTIVE MARKER



TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER



TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER



GENERAL NOTES

- Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.

LEGEND

- Type A
- Type C
- Type D
- Type H
- Type J

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER

1/21/78
DATE

APPROVED:

Harold J. Zaleski
ASSISTANT CHIEF, ENGINEERING

1/24/78
DATE

No.	REVISION	APPROVED BY	DATE
1	Supersedes DT 300 approved 11/18/71.	H.T.	1/24/78
2	Delete Type A Markers from Bike Route Delineation.	H.T.	10/15/79

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS RAISED PAVEMENT MARKERS AND STRIPING	
Not to Scale	July 1978

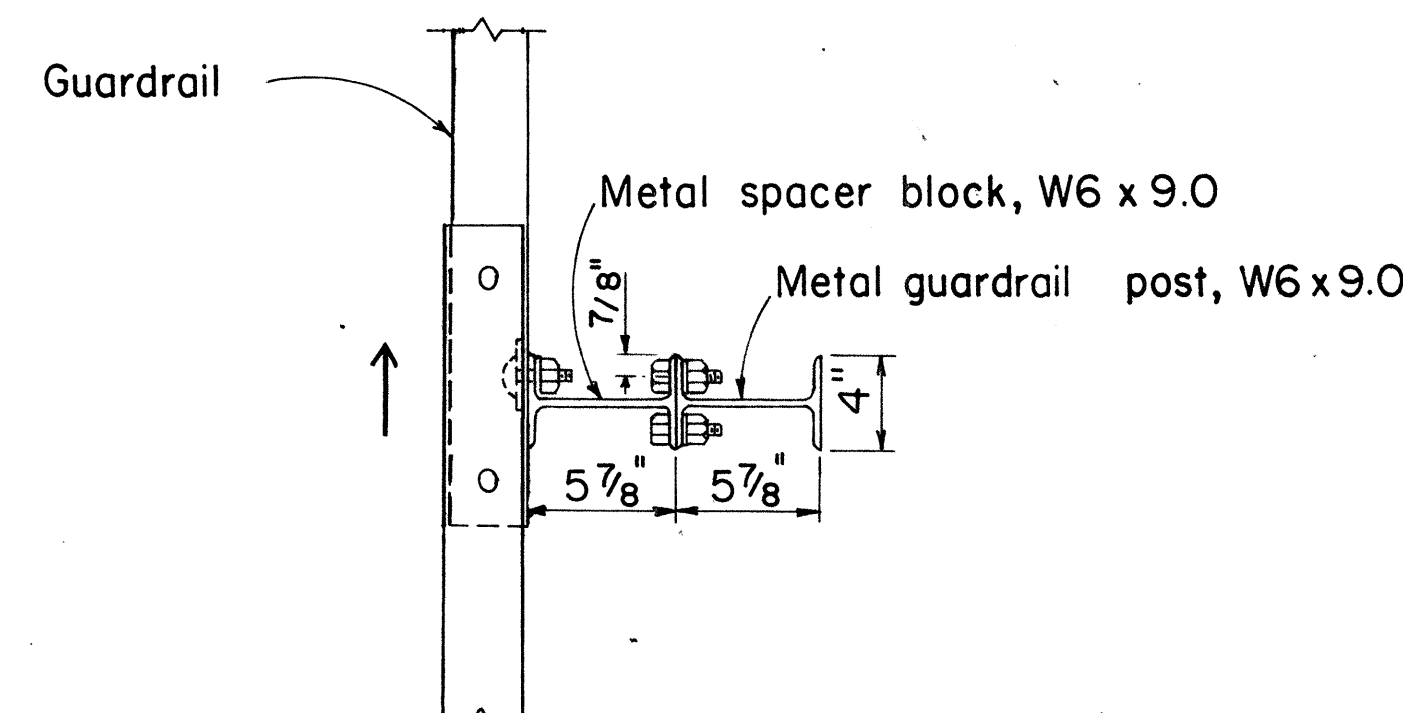
SHEET No. 9 OF 14 SHEETS DT 300

DATE	1/21/78
DESIGNED BY	
DRAWN BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

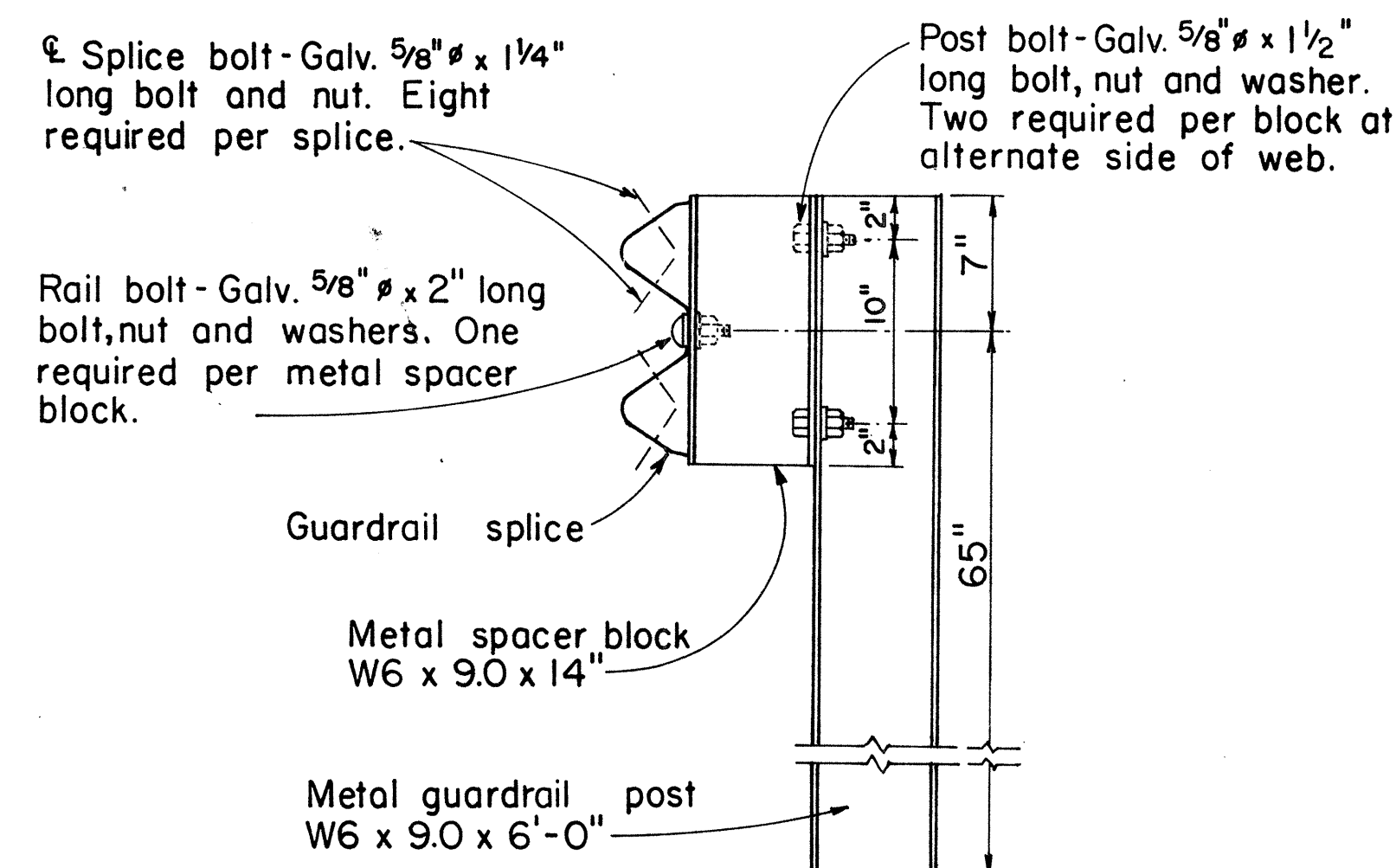
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560-01-83M	1983	18	22

GENERAL NOTES

- Both of the alternate type posts may be used on any one project however, only one type of post shall be used in any single run of guardrail.
- All hardware, posts and blocks shall be galvanized. No punching, drilling or cutting will be permitted after galvanizing.
- Connection details for bent plate post and block shall be similar to the details shown for structural shape post, and block.
- Where conditions require, special post lengths in increments of 6 inches may be specified.
- For details of rail elements, bolts and nuts, see sheet DT 501.



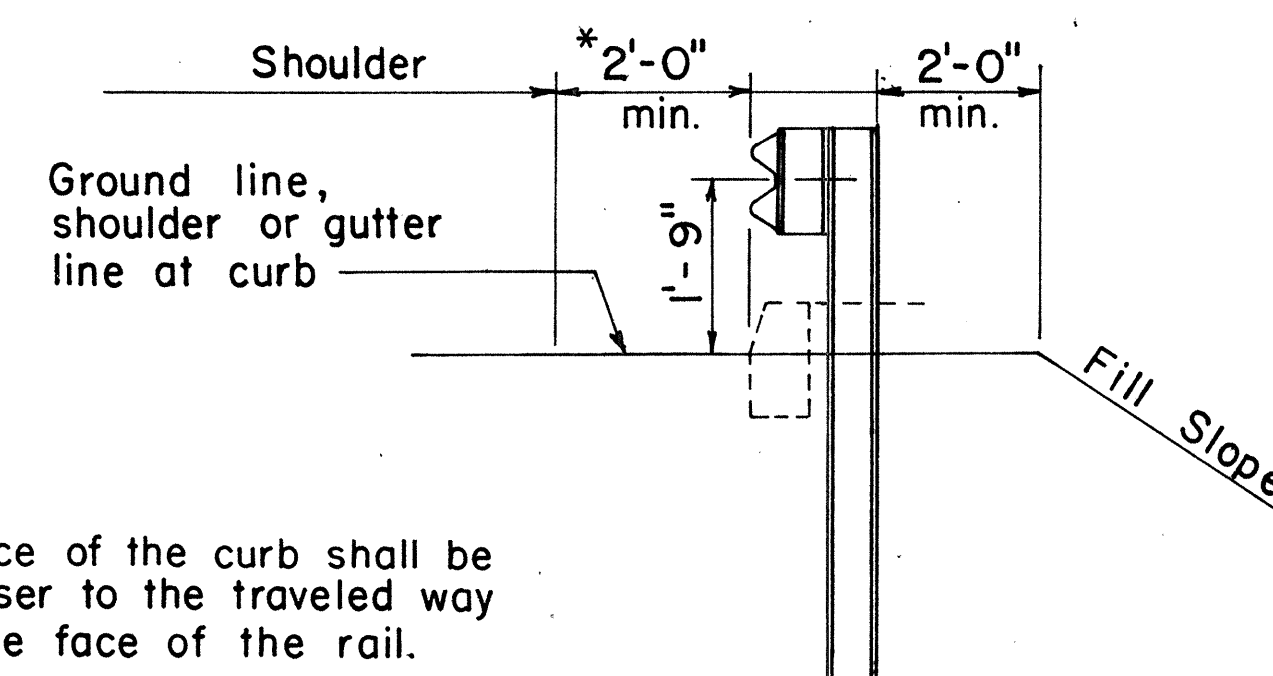
PLAN



ELEVATION

SINGLE METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK

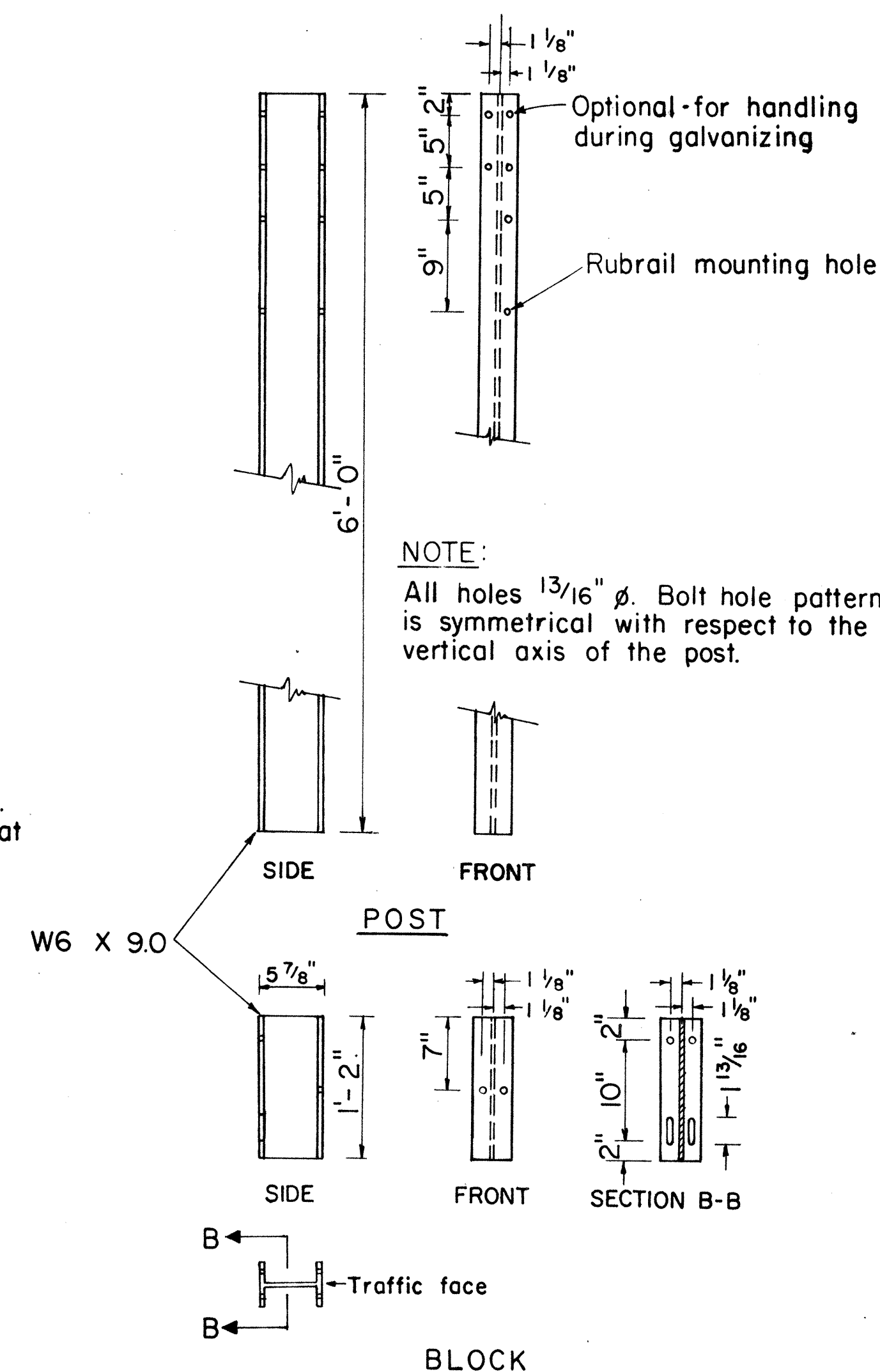
SCALE: 1/2" = 1'-0"



AT SHOULDER SECTION

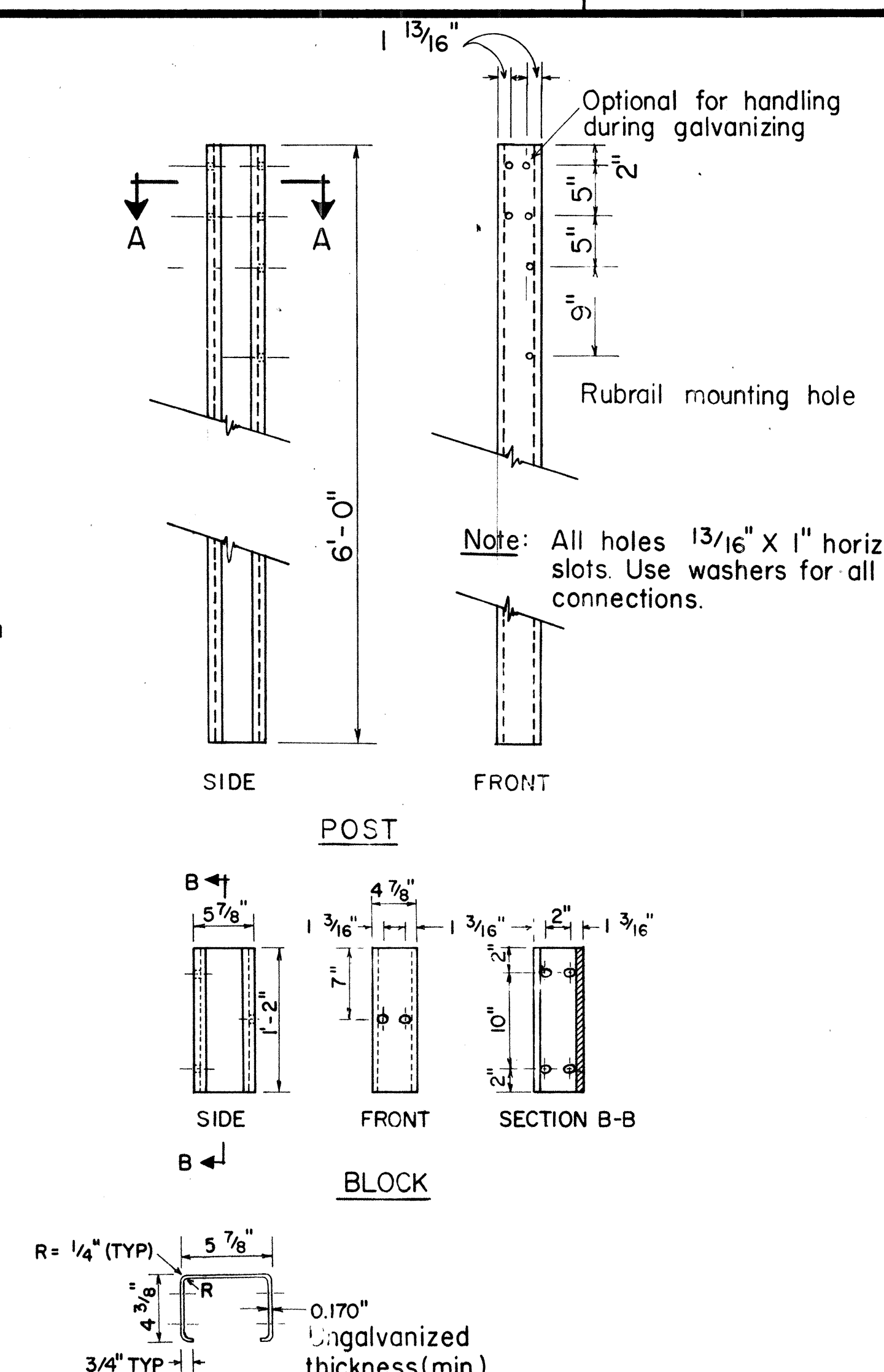
TYPICAL METAL GUARDRAIL DETAIL

SCALE: 1/2" = 1'-0"



STRUCTURAL SHAPE POST AND BLOCK

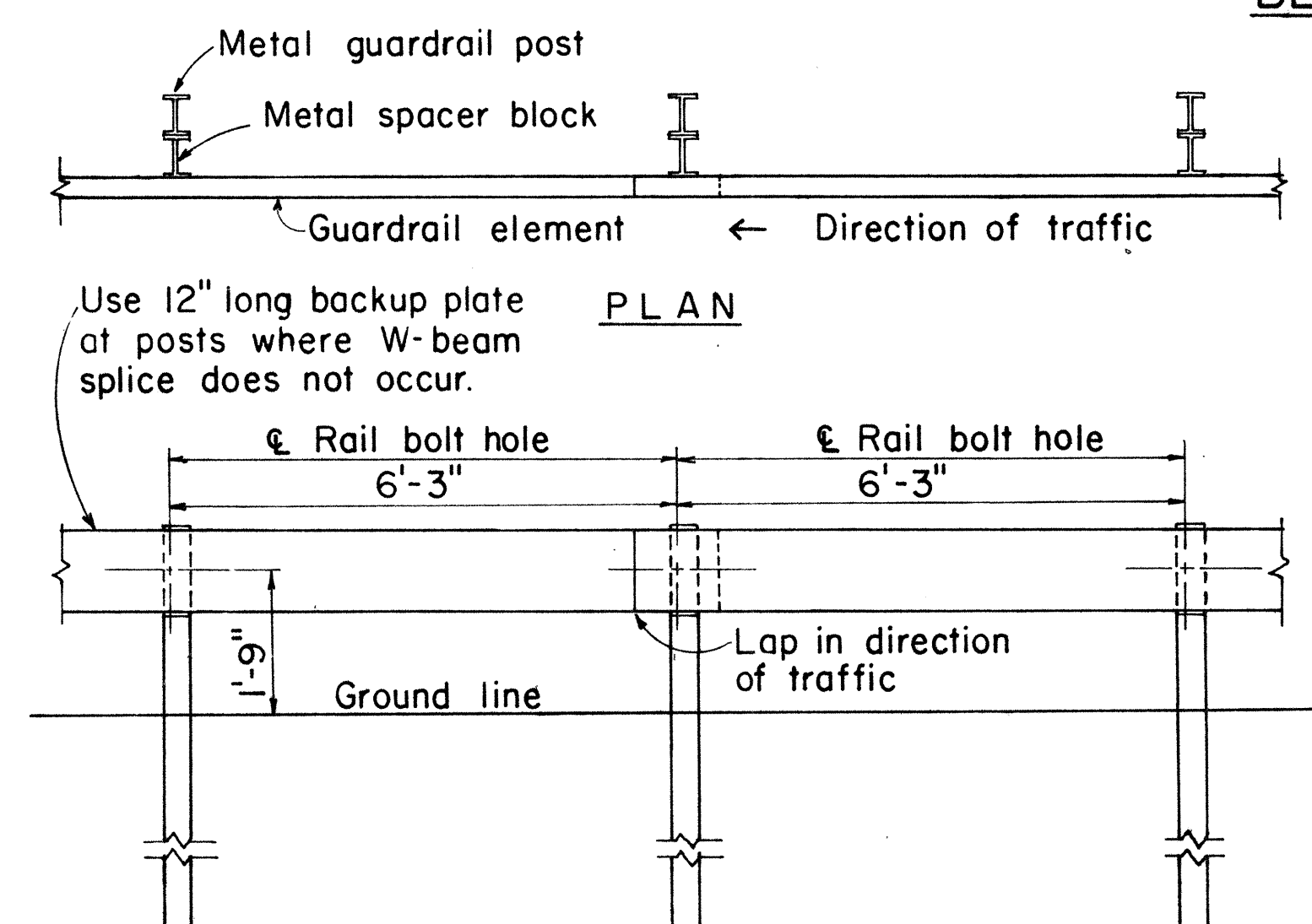
SCALE: 1" = 1'-0"



SECTION A-A N.T.S.

BENT PLATE POST AND BLOCK

SCALE: 1" = 1'-0"



ELEVATION

METAL GUARDRAIL ON METAL POST WITH METAL SPACER BLOCK

SCALE: 1/2" = 1'-0"

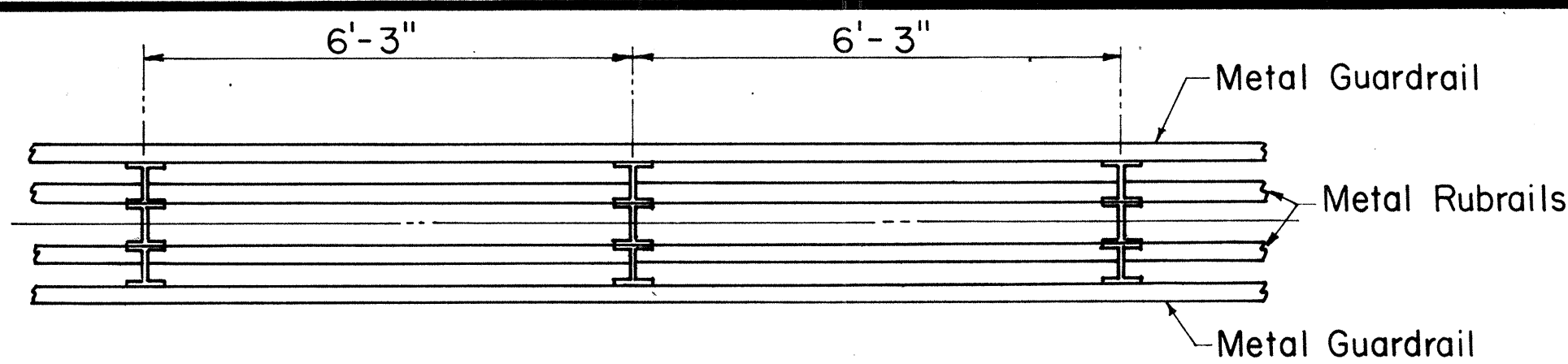
APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER
DATE: 3/7/82

APPROVED:
Robert Zaleski
ASSISTANT CHIEF, ENGINEERING
DATE: 9/22/82

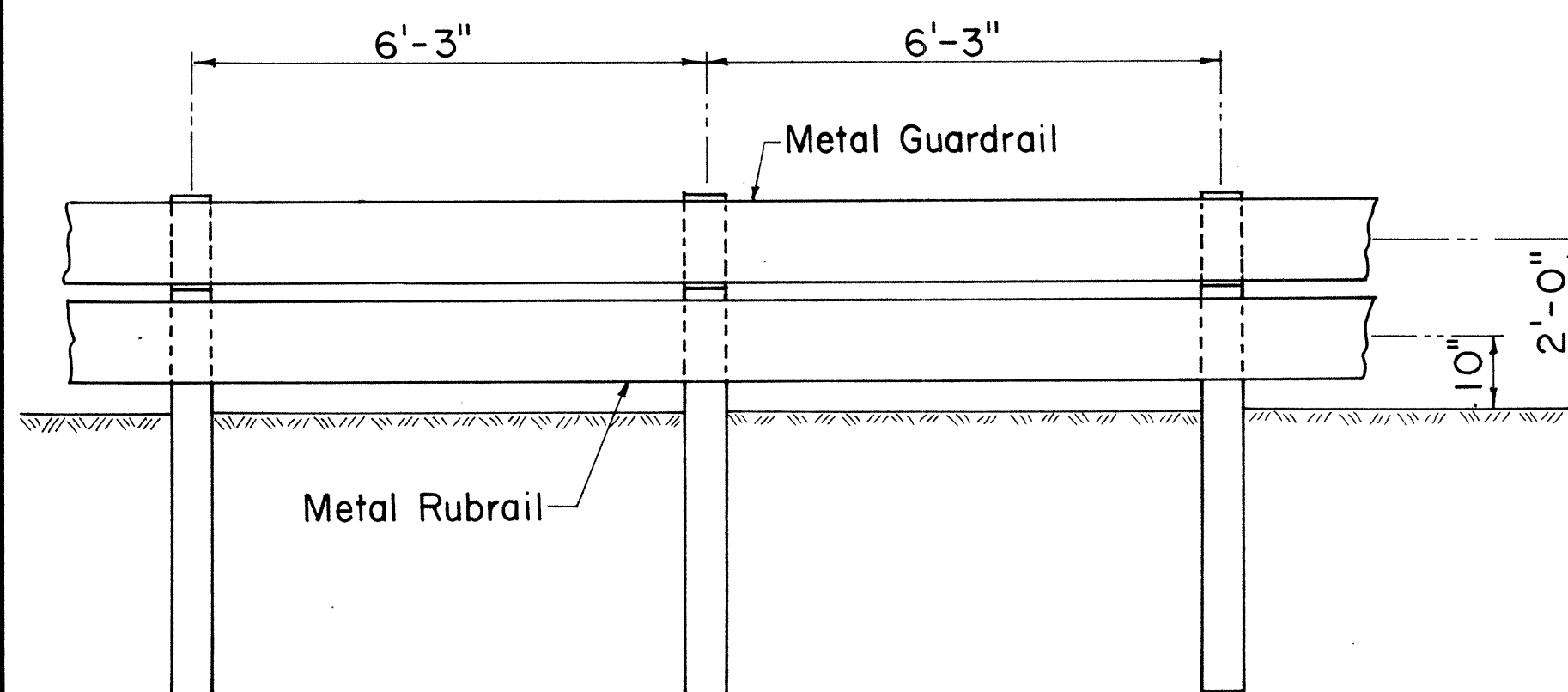
NO.	REVISION	APPROVED BY	DATE
1	Supersedes sht. DT 500 approved 12/30/69.	H.P.	9/22/82

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
METAL GUARDRAIL
Scale: As Shown
July, 1982
SHEET NO. 10 OF 14 SHEETS DT 500

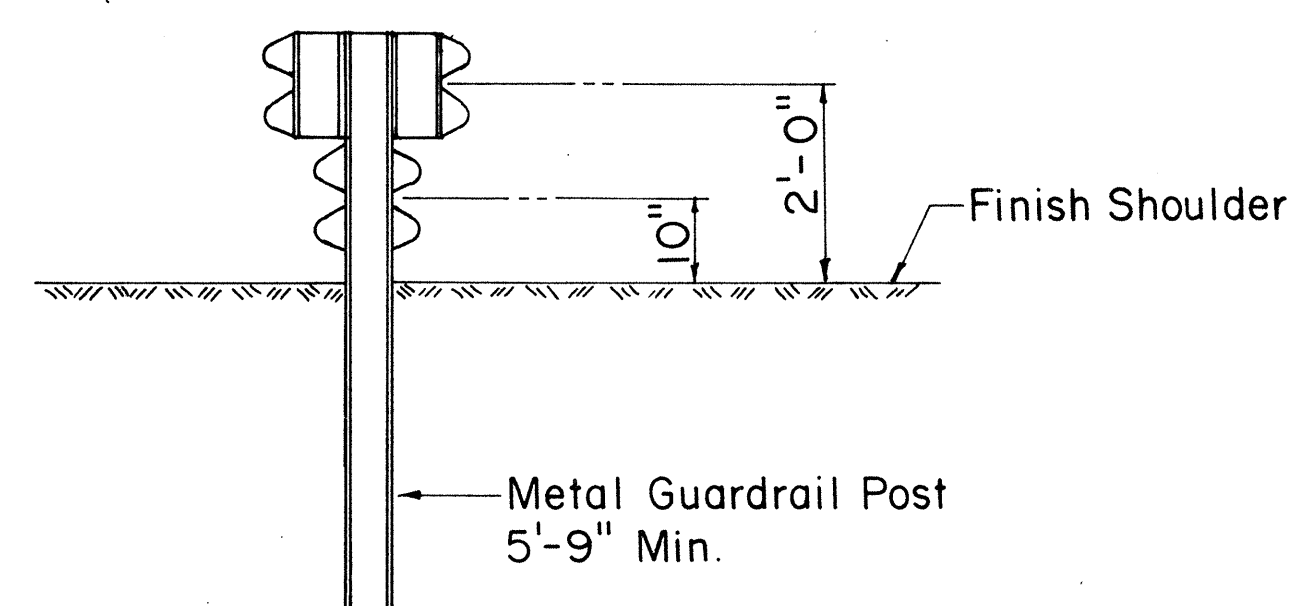
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-83M	1983	20	22



PLAN

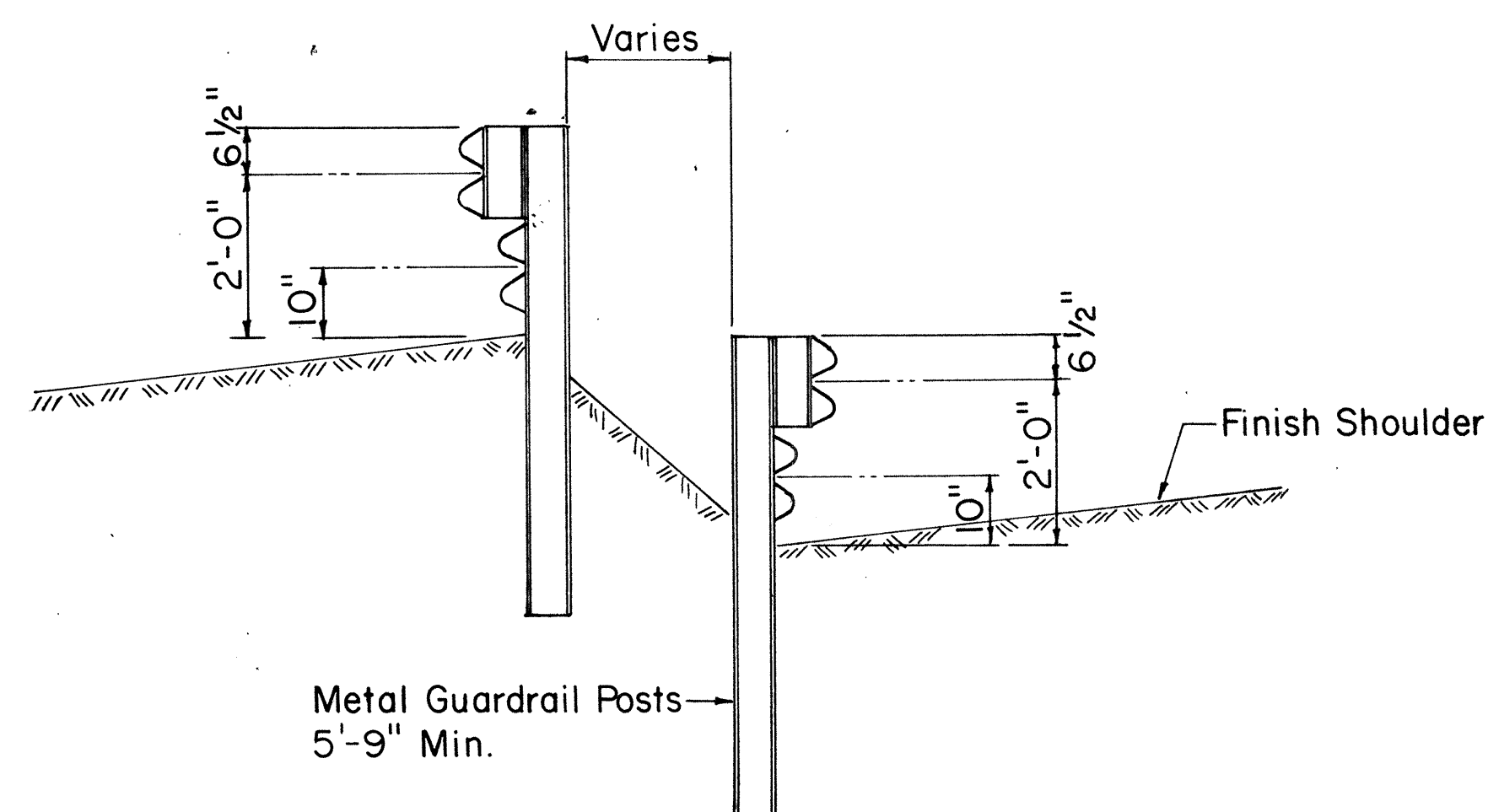


ELEVATION

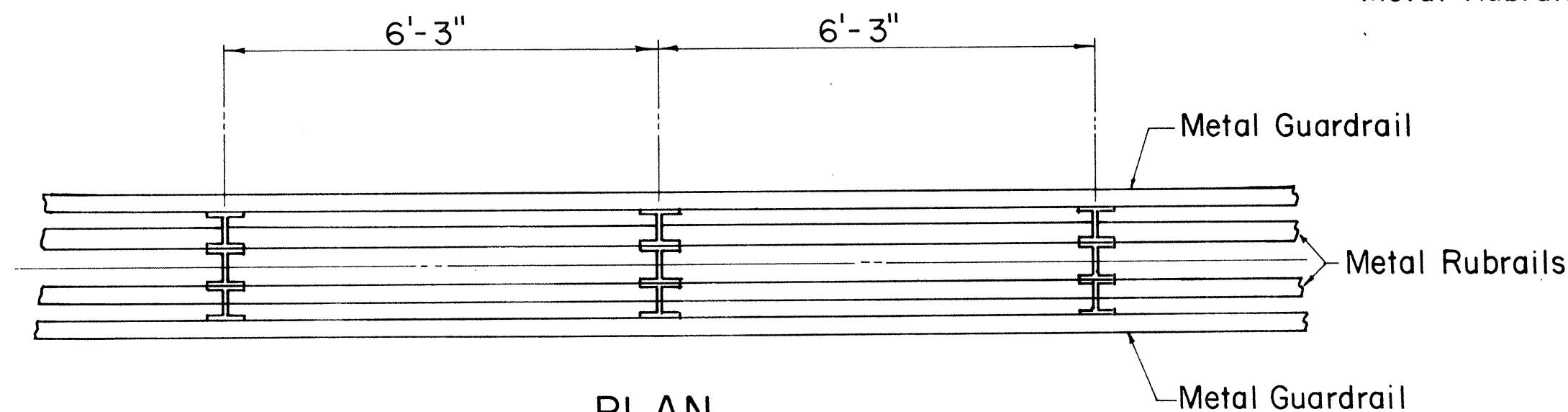


SECTION

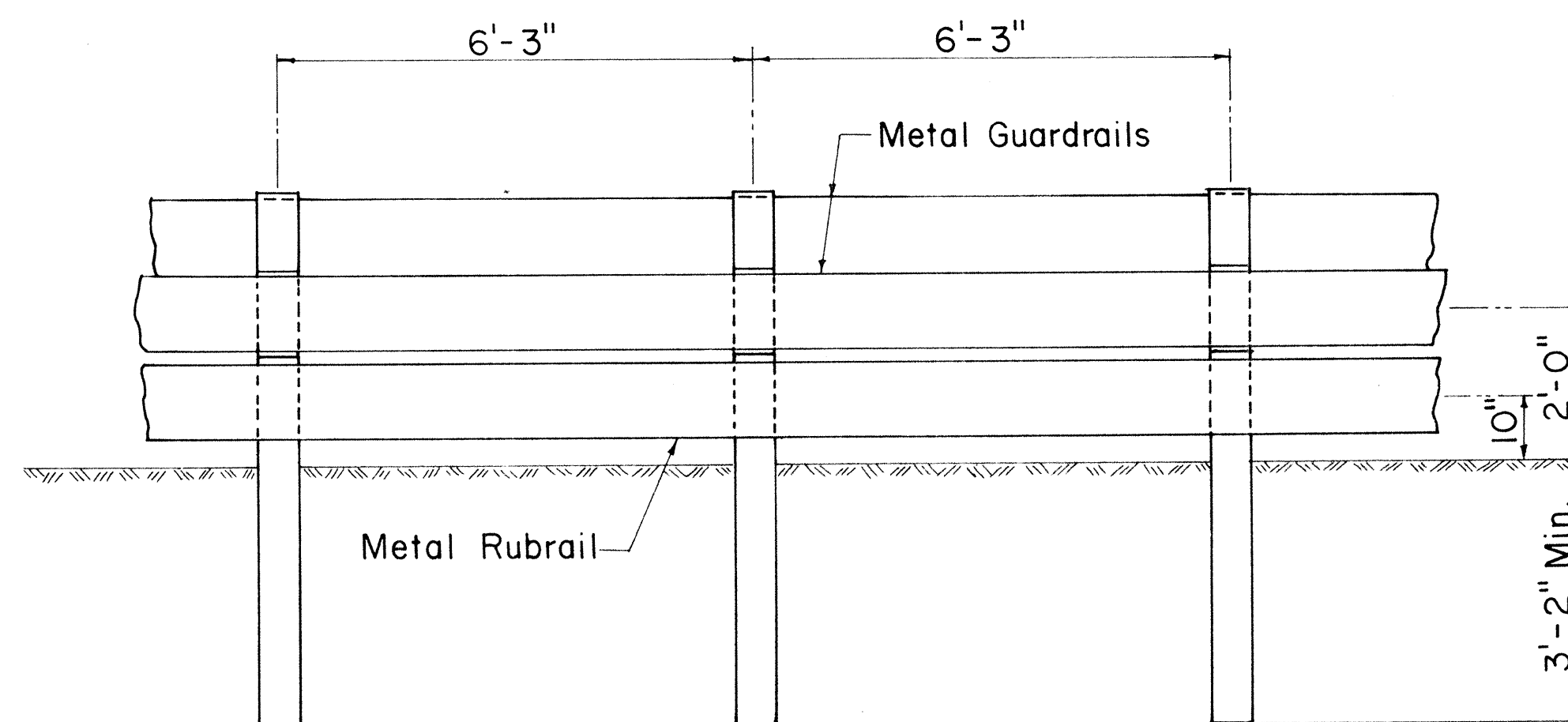
TYPICAL MEDIAN BARRIER INSTALLATION



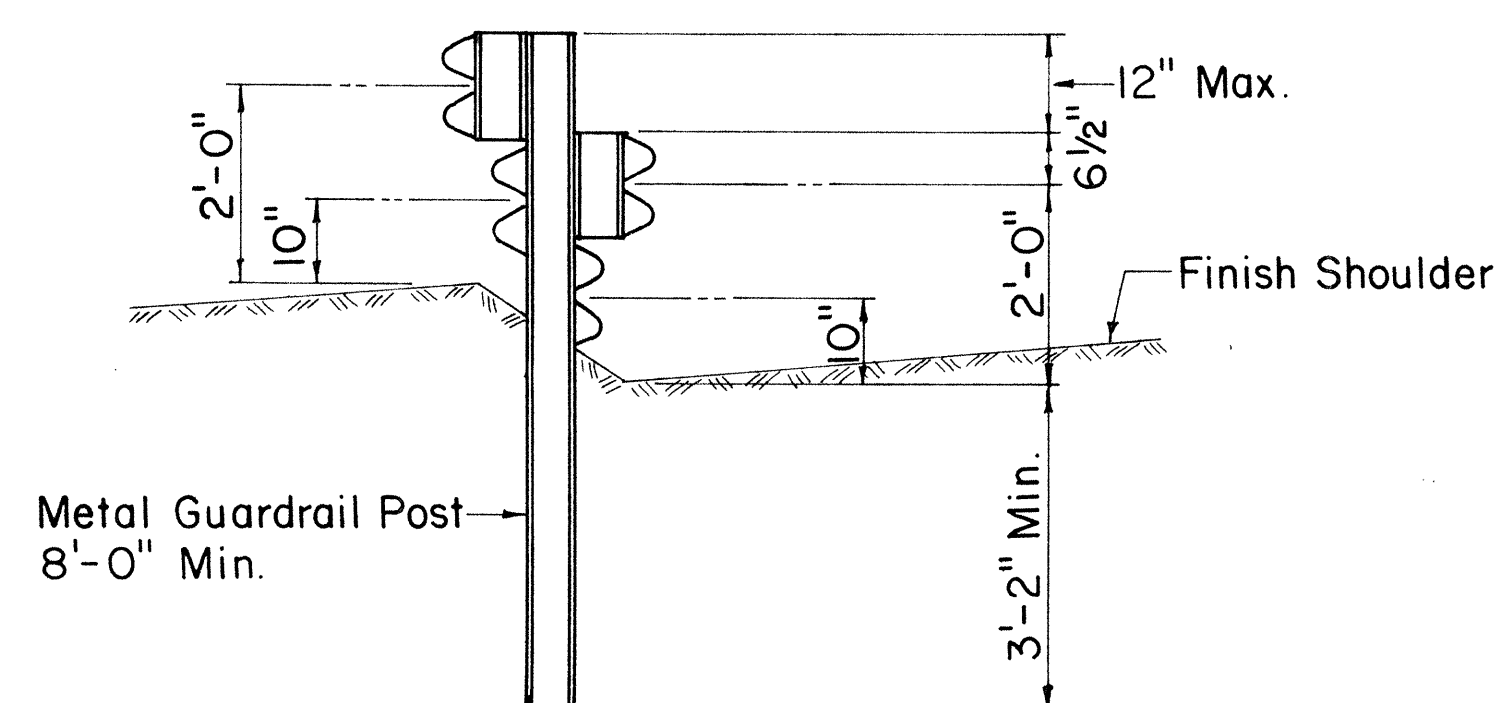
TYPICAL DOUBLE POST SECTION



PLAN

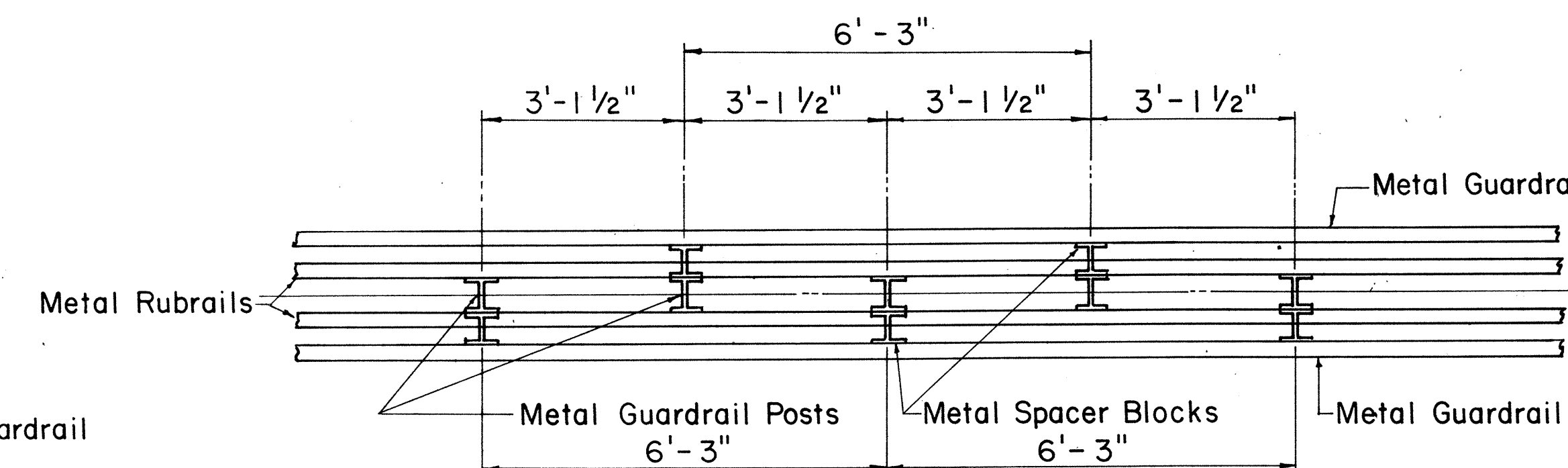


ELEVATION

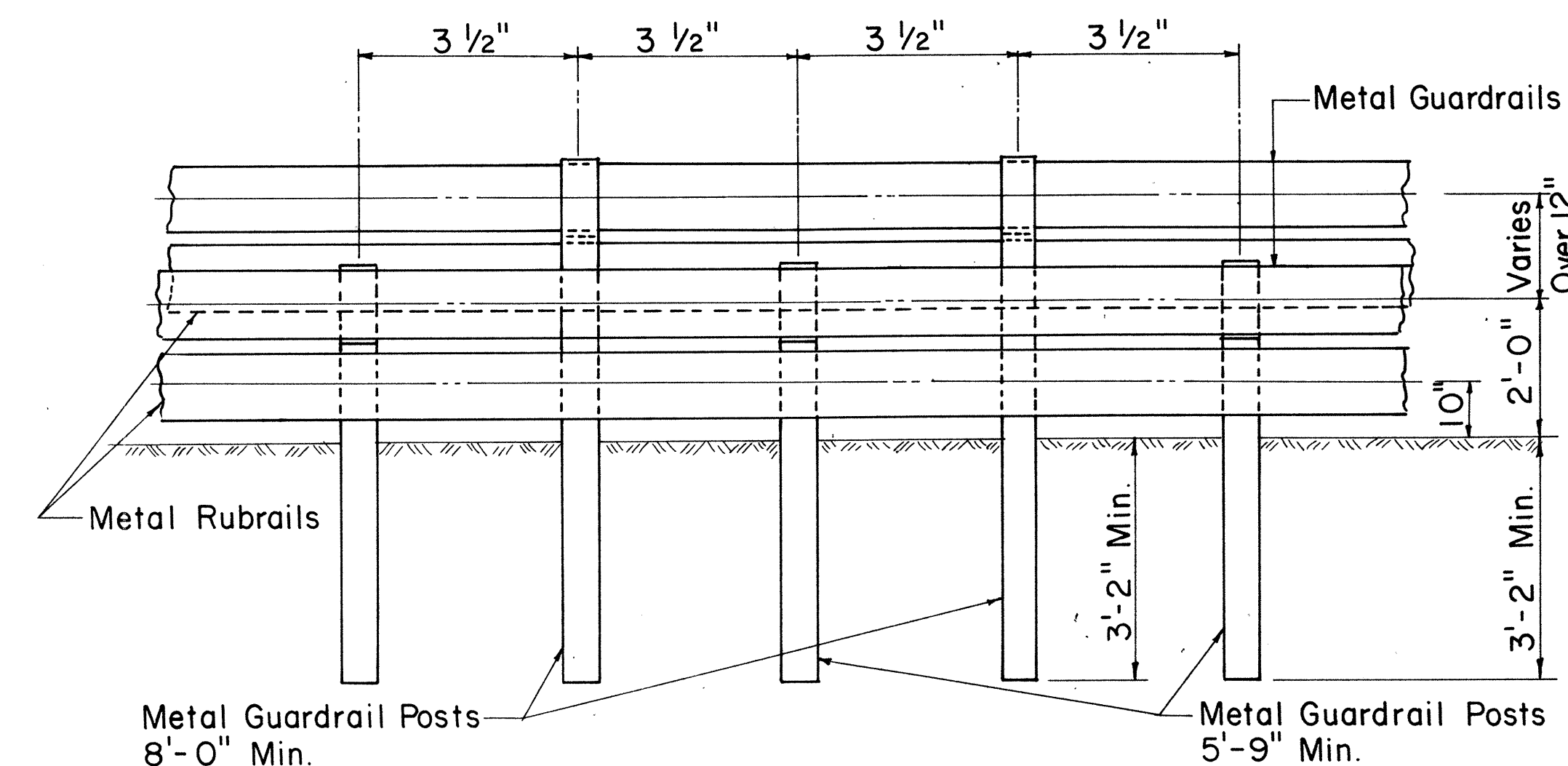


SECTION

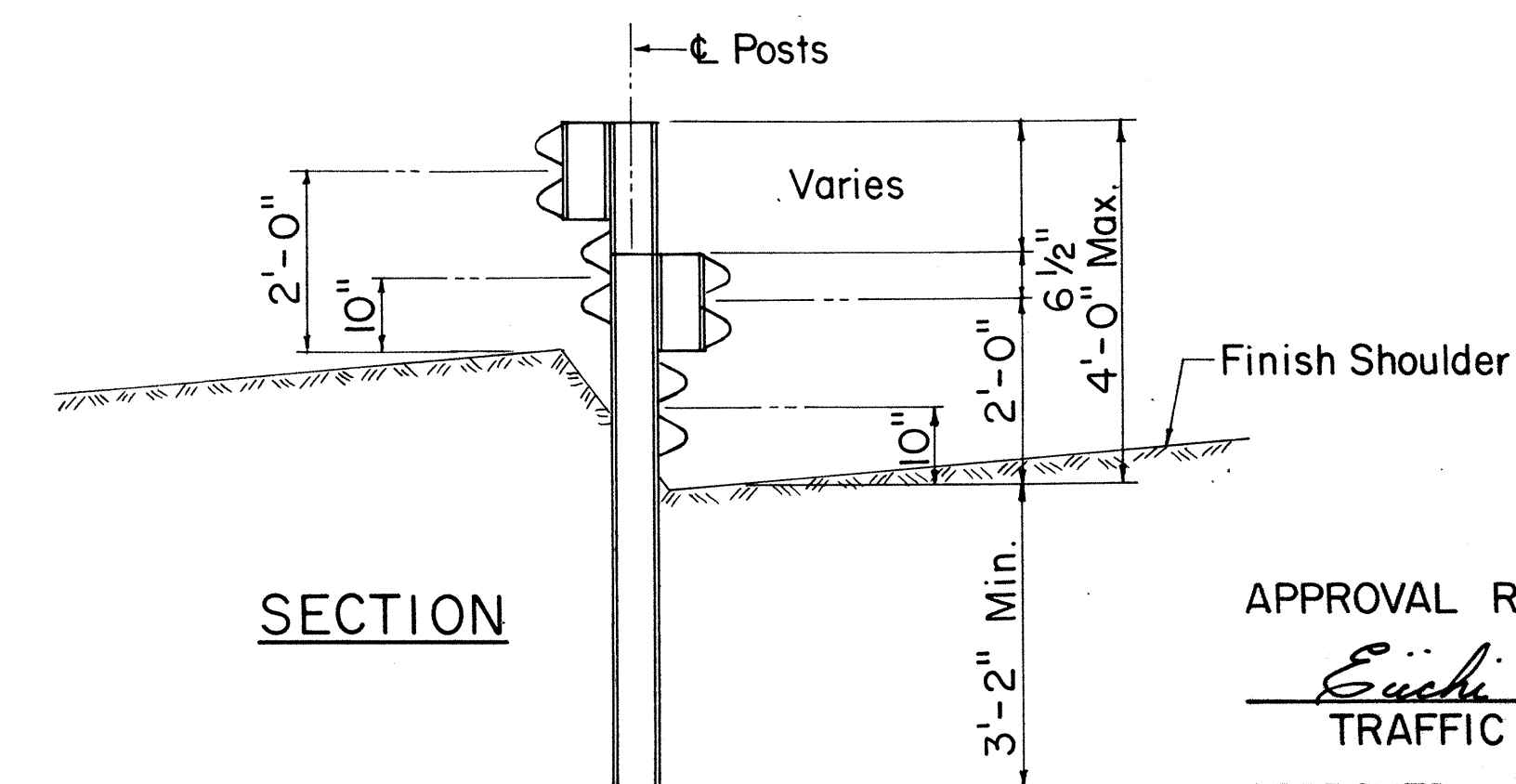
TYPICAL SAW TOOTH INSTALLATION



PLAN



ELEVATION



SECTION

TYPICAL STAGGERED INSTALLATION

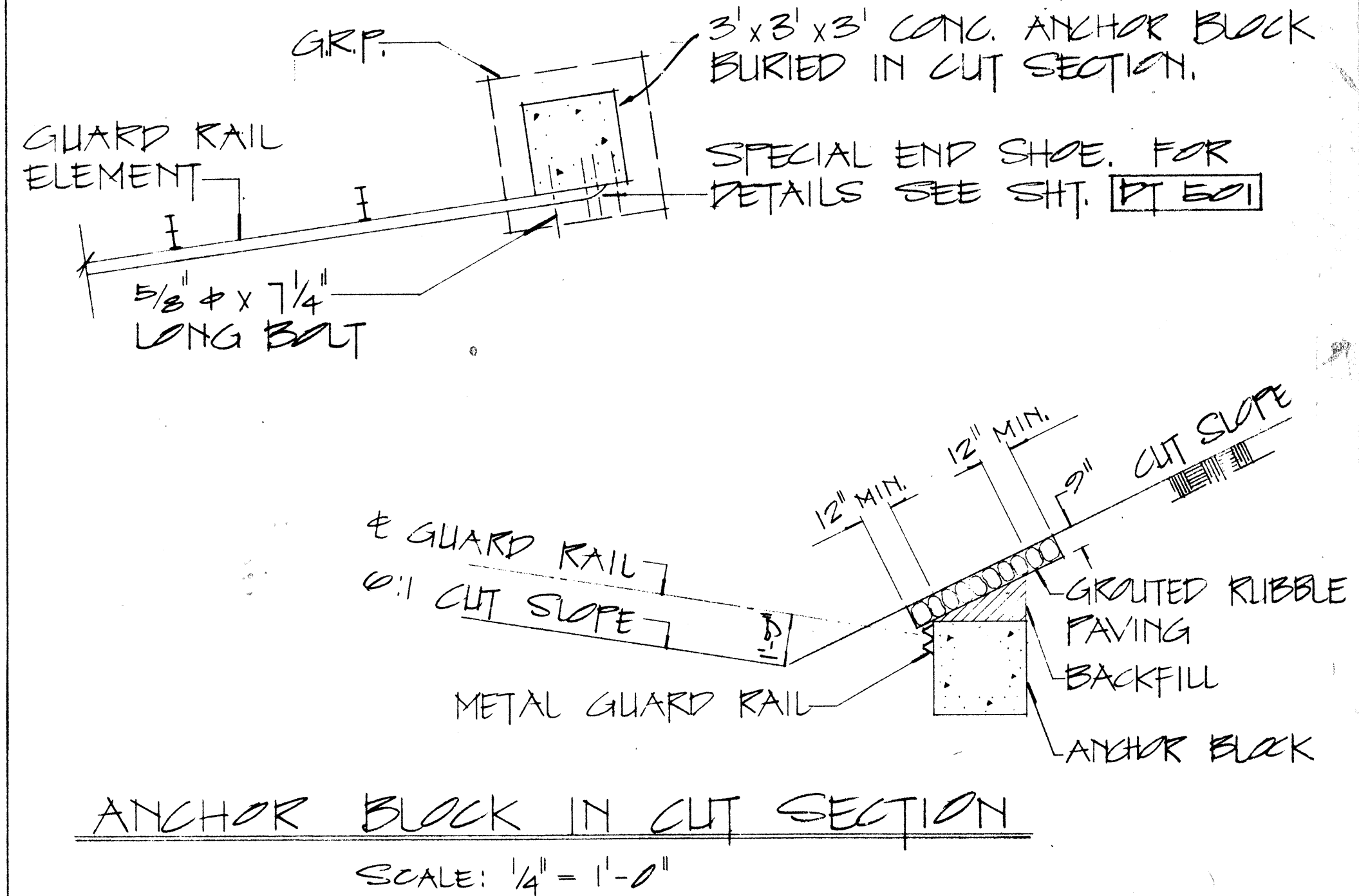
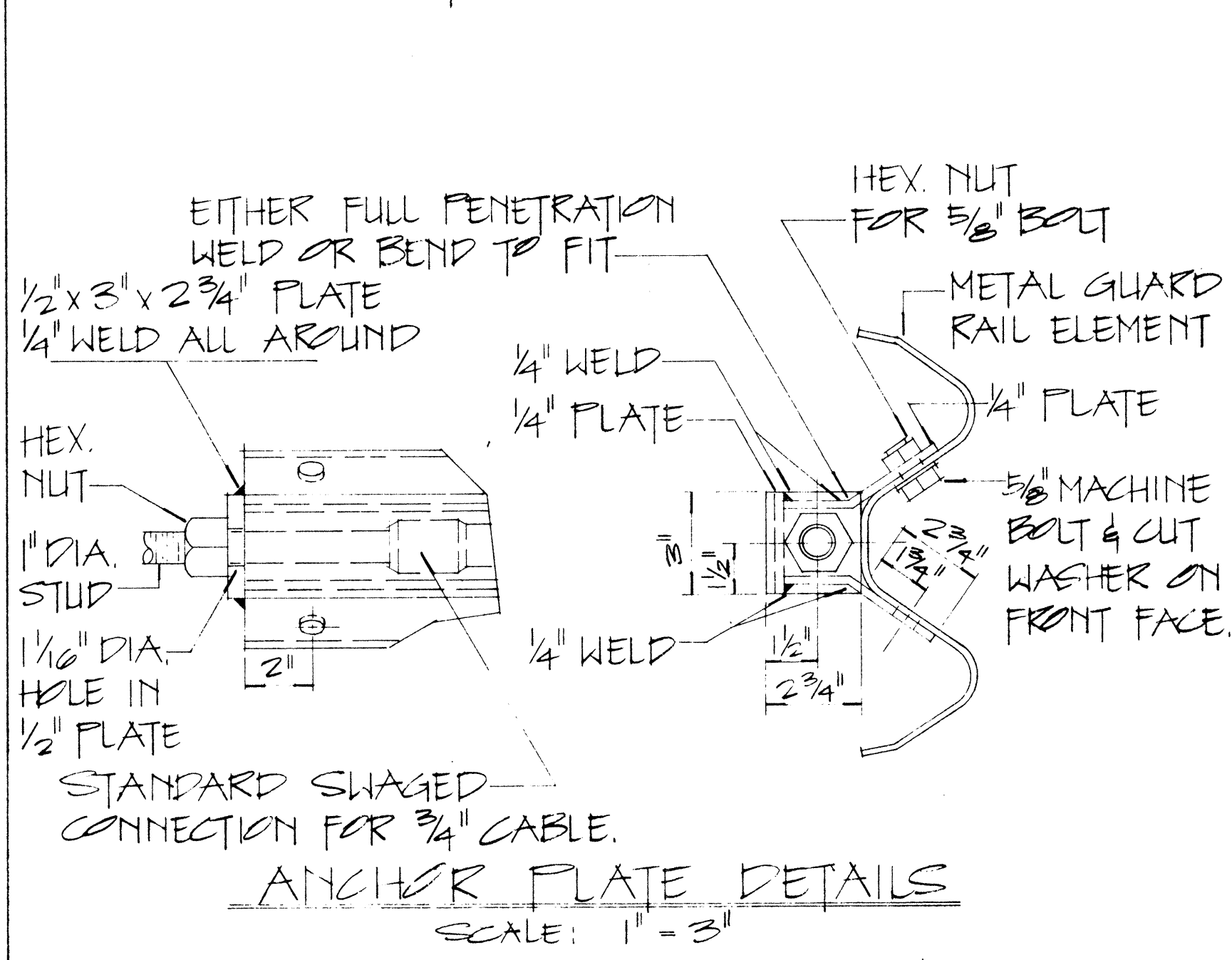
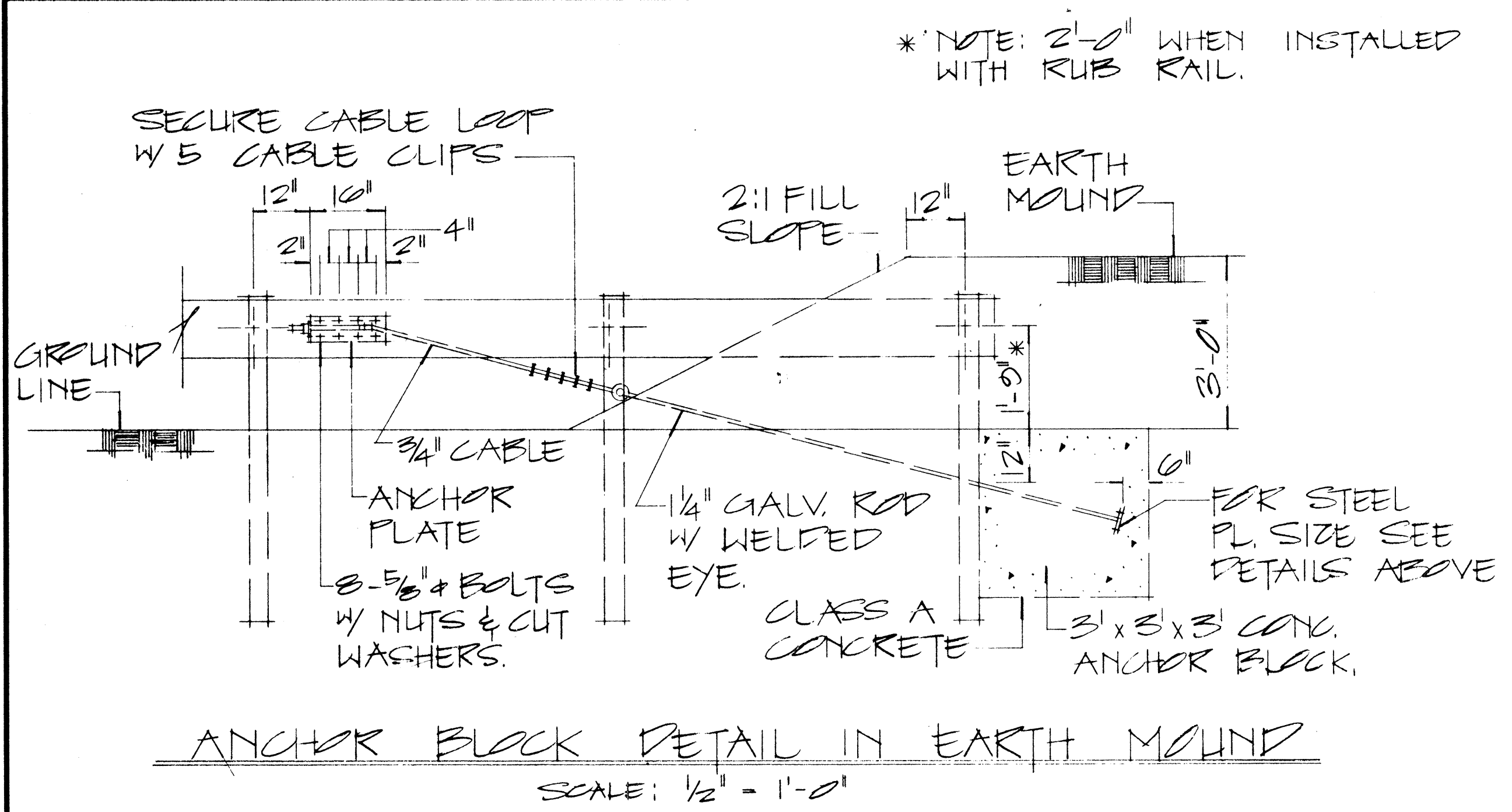
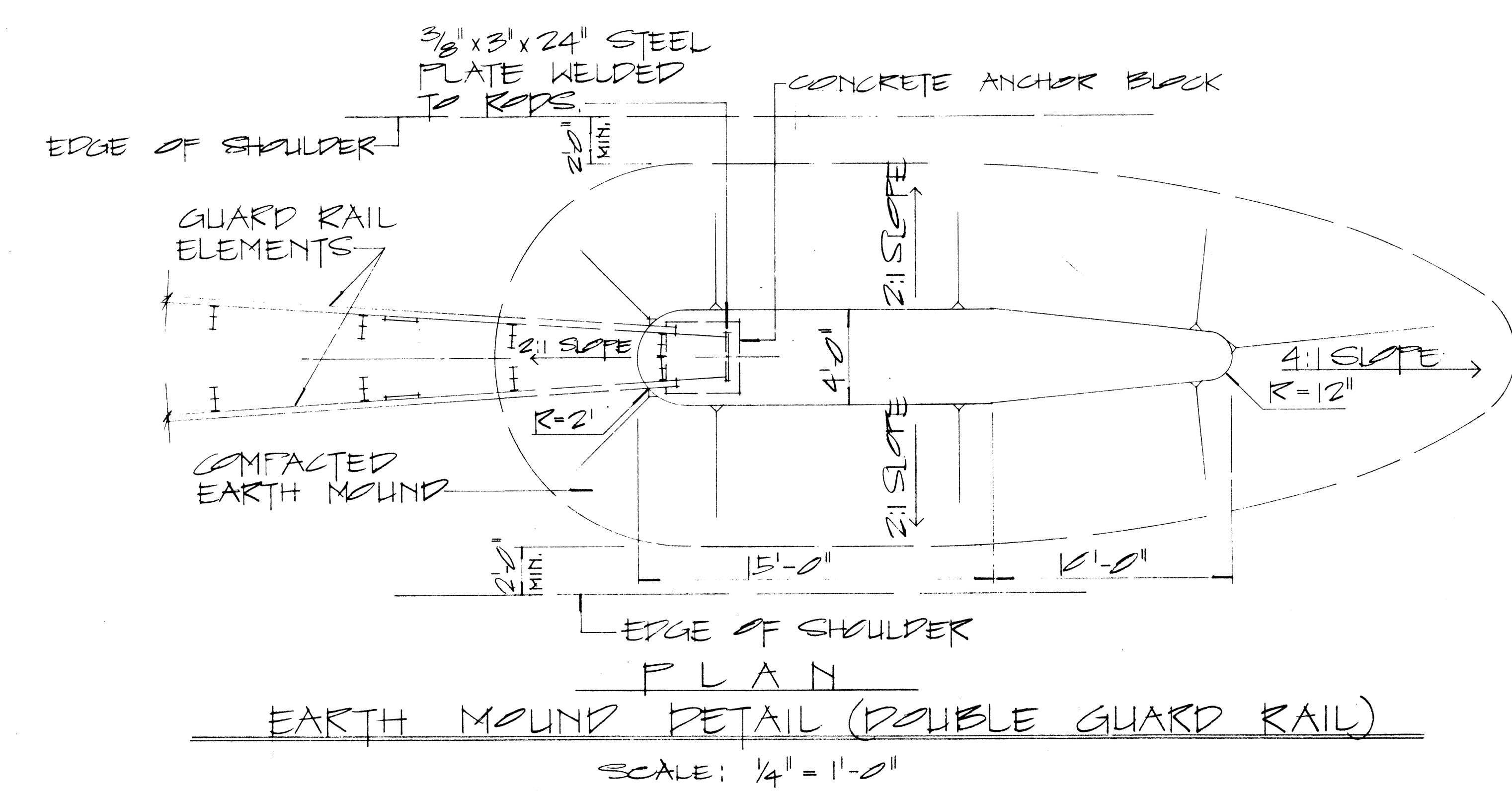
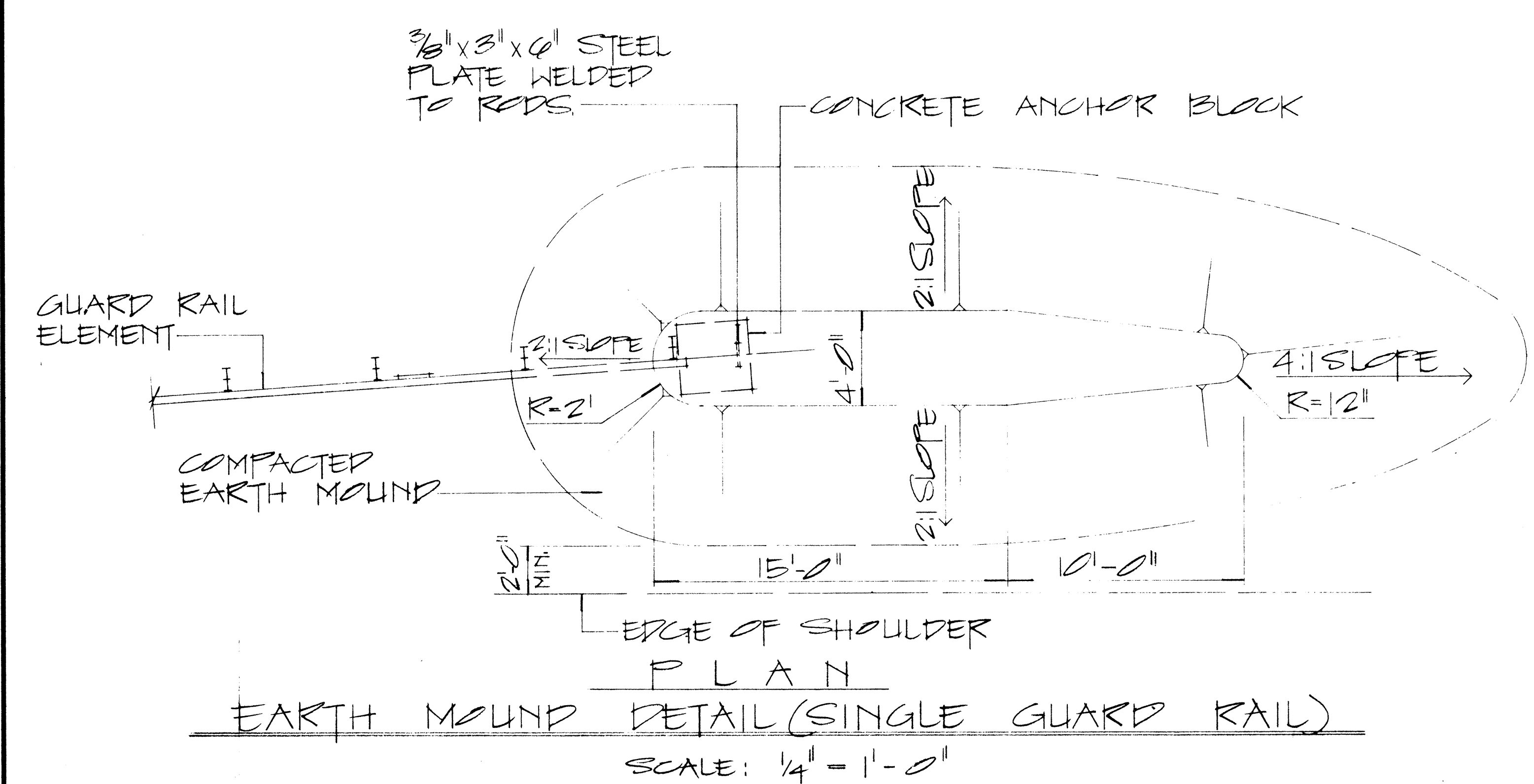
NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 514 Approved 12/30/69	<i>[Signature]</i>	1-31-83

APPROVAL RECOMMENDED:
Eishi Tanaka
 TRAFFIC ENGINEER
 1/28/83
 DATE

APPROVED:
[Signature]
 ASSISTANT CHIEF, ENGINEERING
 1-31-83
 DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
METAL GUARDRAIL WITH RUBRAIL
Scale: 1/2" = 1'-0" October 1982
SHEET NO. 12 OF 14 SHEETS DT 514

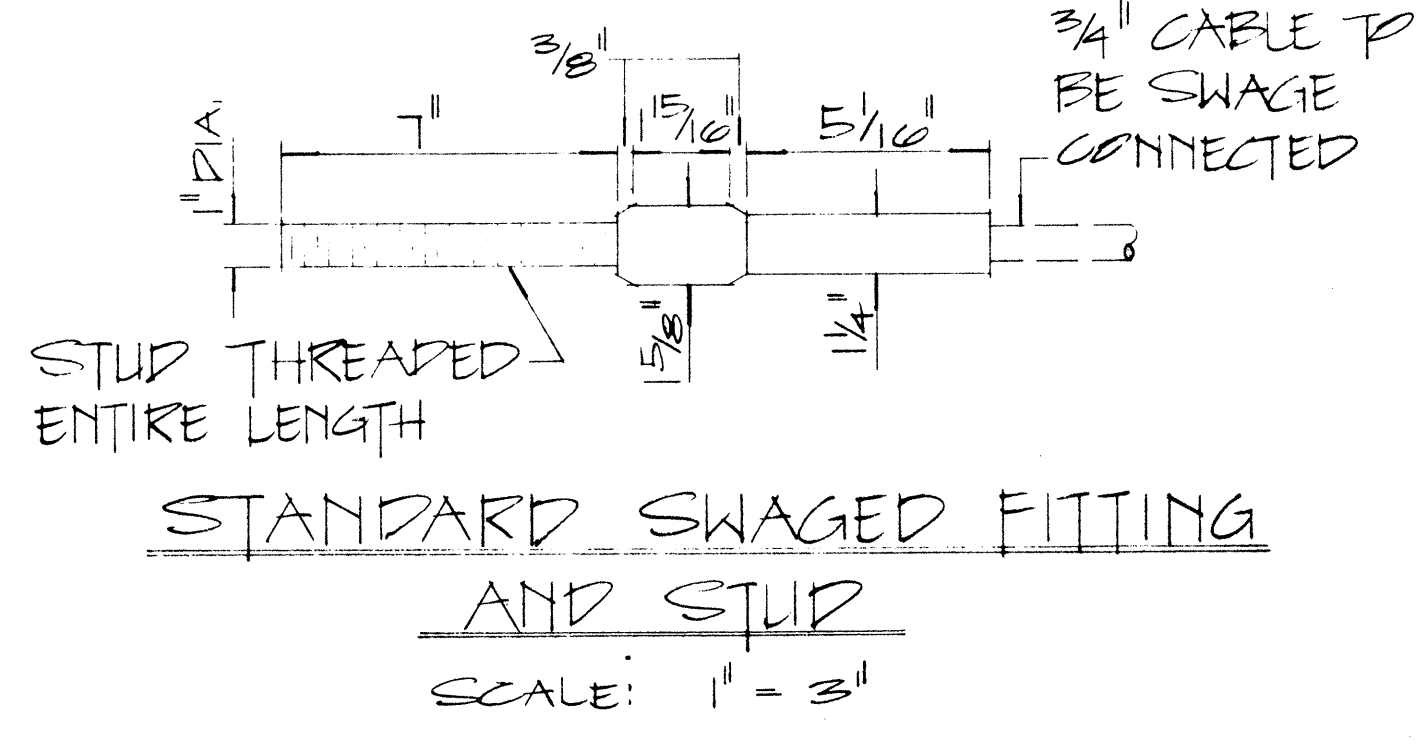
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560-01-83M	1983	21	22



NOTE:

1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND POST BURIED IN GROUND, SHALL BE COVERED WITH A MIN. 20-MIL THICKNESS OF COAL TAR ENAMEL, CONFORMING TO AWWA STANDARD: C 203

2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.



APPROVAL RECOMMENDED:			
Eishi Tanaka		12/29/69	
TRAFFIC ENGINEER		DATE	
APPROVED:			
Assistant Chief, Engineering		12-30-69	
DATE			
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

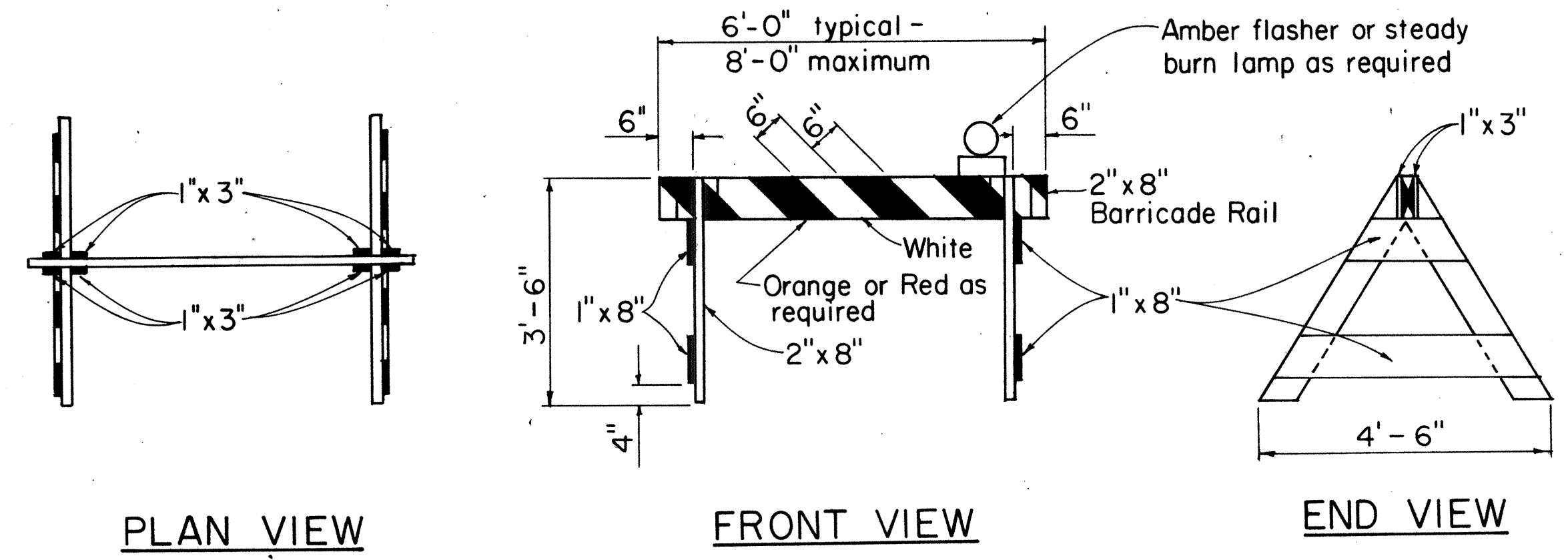
STANDARD DETAILS
EARTH MOUND AND
ANCHOR BLOCK DETAILS

SCALE: AS SHOWN OCT 1960

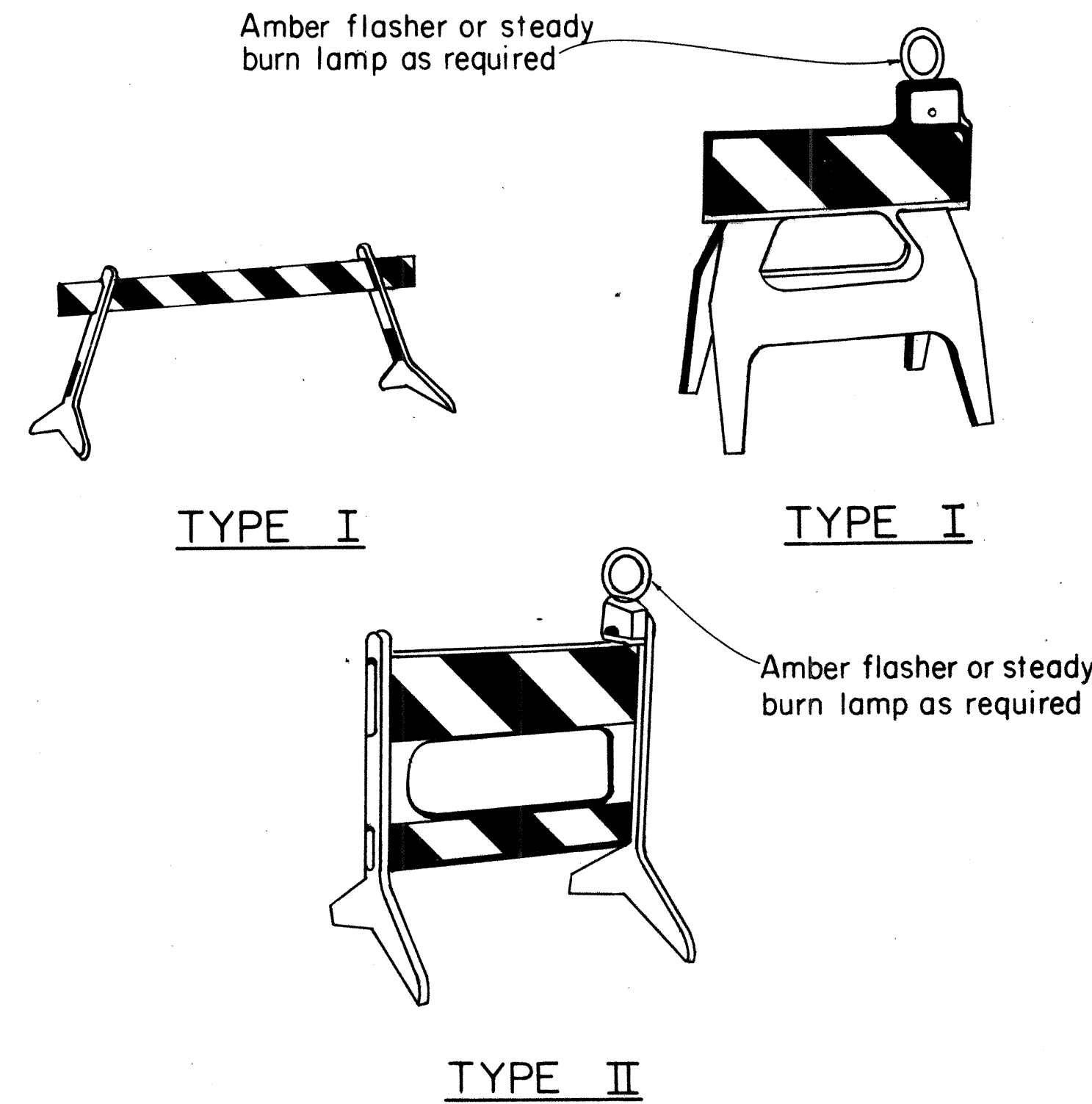
SHEET No. 13 OF 14 SHEETS PT 520

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	
NOTE BOOK	

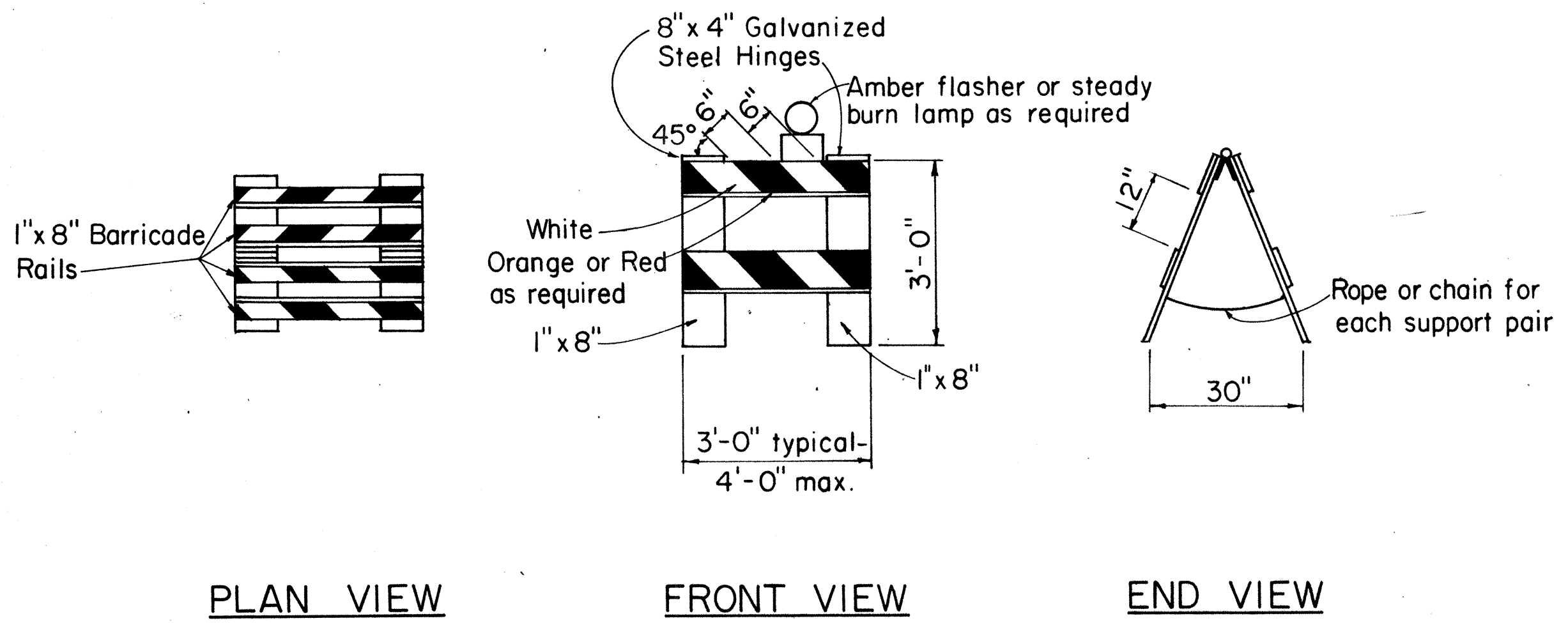
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	560018311	1983	22	22



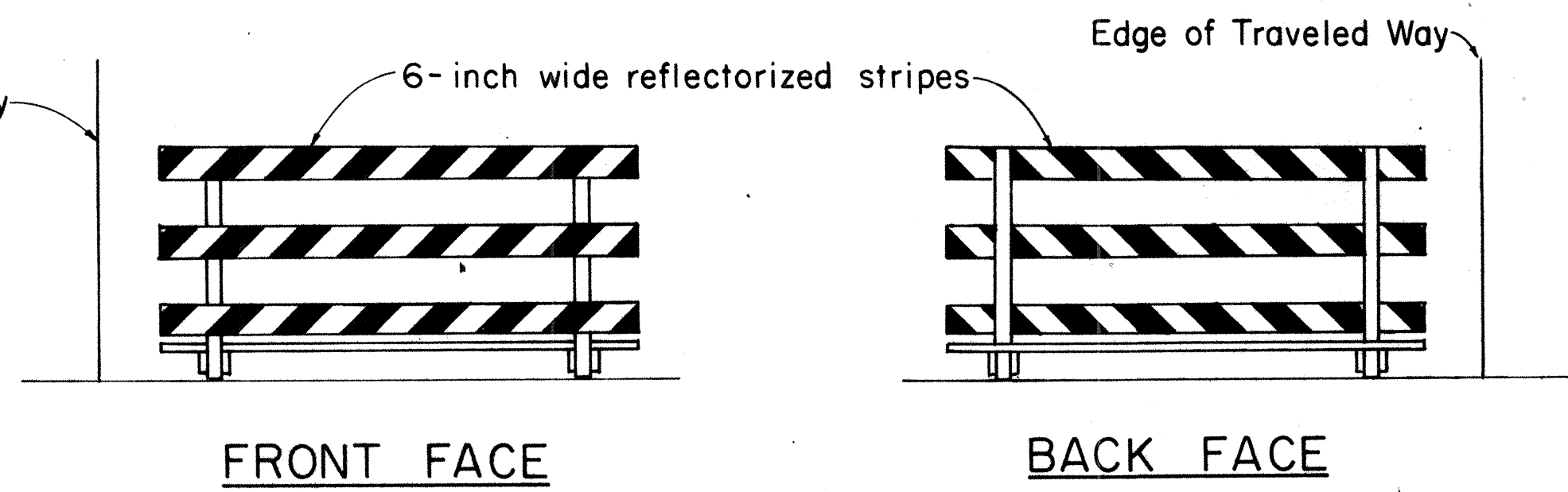
TYPE I BARRICADE
Scale: 1/2" = 1'-0"



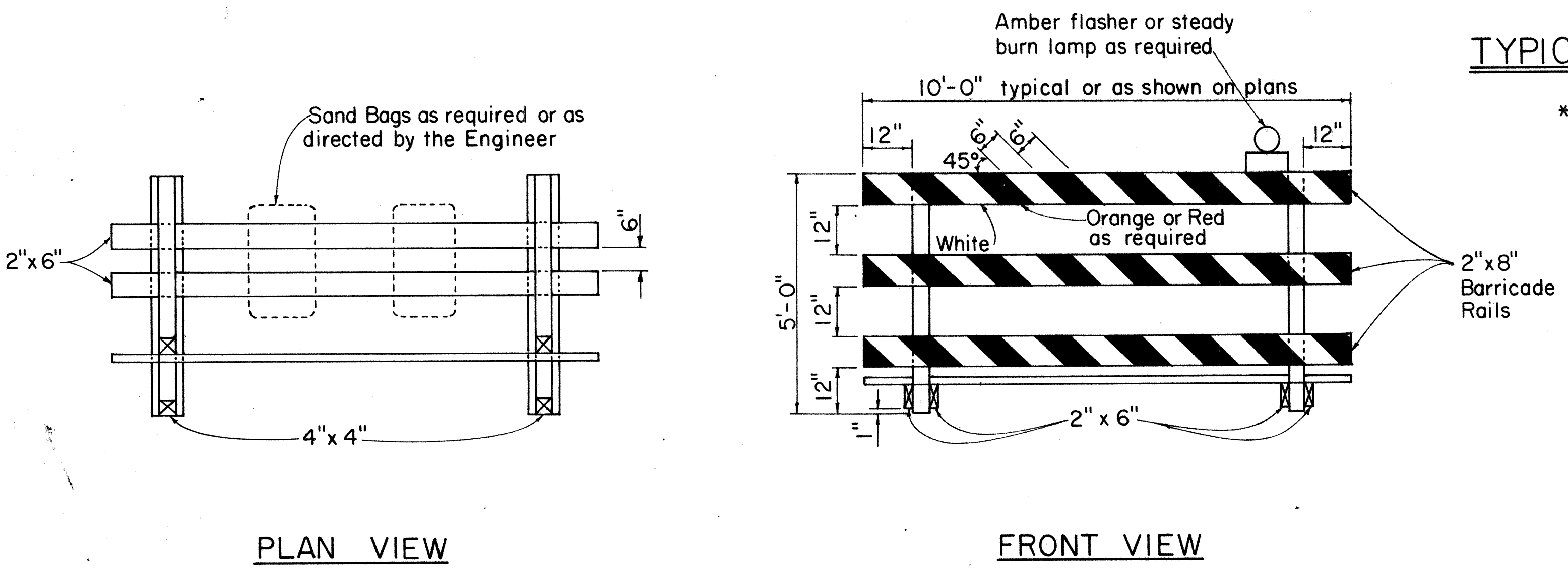
PLASTIC MOLDED BARRICADE OPTIONS*
Not to Scale
* Shop Drawings must be submitted for approval.



TYPE II BARRICADE
Scale: 1/2" = 1'-0"



TYPICAL BARRICADE STRIPING DETAILS**
Not to Scale
** Similar for Types I & II



TYPE III BARRICADE
Scale: 1/2" = 1'-0"

GENERAL NOTES

- The front and back faces of each barricade rail shall be reflectorized with stripes sloping downward toward the same side (traveled way) of each barricade.
- Contractor may submit alternate barricade designs for approval.
- Sandbags or other approved weights shall not be placed on top of any striped rail.
- The Contractor is directed to Section 626.

APPROVAL RECOMMENDED:
Erich Tanaka 10/21/81
TRAFFIC ENGINEER DATE

APPROVED:
Robert J. Delisio 10/23/81
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 800 Approved 12/30/69	H.T.	10/23/81

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
BARRICADES

SCALE: As Shown
SHEET No. 14 OF 14 SHEETS DT 800

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	